



# **STIC Search Report**

## **Biotech-Chem Library**

**STIC Database Tracking Number: 98237**

**TO: Jeffrey E Russel**  
**Location: CM1/11D13/9B07**  
**Art Unit: 1654**  
**July 8, 2003**

**Case Serial Number: 018806**

**From: P. Sheppard**  
**Location: CM1-1E03**  
**Phone: (703) 308-4499**

**sheppard@uspto.gov**

### **Search Notes**

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Jeffrey E. Russel Examiner #: 62785 Date: 7-7-2003  
 An Unit: 1654 Phone Number 308-3975 Serial Number: 10/018,806  
 Mail Box and Bldg./Room Location: \_\_\_\_\_ Results Format Preferred (circle) PAPER DISK E-MAIL  
CM1-11013/CM1-9807

If more than one search is submitted, please prioritize searches in order of need.

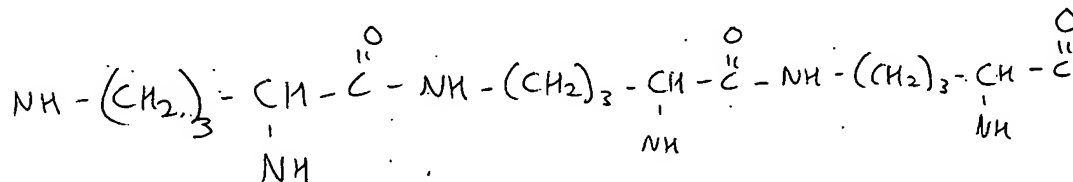
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method of Preparing Polycation Based Bioconjugates Suitable For  
 Inventors (please provide full names): P. Szego

Earliest Priority Filing Date: 5-7-2002

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the following partial structure:



Please use the keywords conjugat?, complex?, bioconjugat?,  
 DNA, RNA, nucleic, fatty acid, acylat?, succinic, palmit?,  
~~stear?~~, ~~laur?~~ stearic, stearate, lauric, laurate, to  
 narrow any hits.

If possible, please find the RN for the above compound (also  
 called isopolymorphine) and use that for a similar search  
 with the keywords.

Thank you. *JER*

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>Point of Contact</u>	NA Sequence (#) _____	STN _____	
Searcher: <u>P. Sheppard</u>	AA Sequence (#) _____	Dialog _____	
Searcher: <u>Telephone number: (703) 308-4499</u>	Structure (#) _____	Questel Orbit _____	
Searcher Location _____	Bibliographic _____	Orbit _____	
Date Searcher Reviewed _____	Litigation _____	Lexis Nexis _____	
Date Completed: <u>7/8/03</u>	Fulltext _____	Sequence Systems _____	
Searcher Prep & Review Time _____	Patent Family _____	WWW Internet _____	
Client Prep Time _____	Other _____	Other _____	

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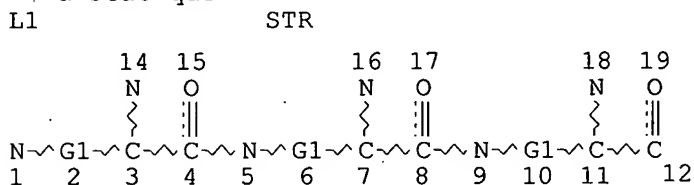
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FILE COVERS 1907 - 8 Jul 2003 VOL 139 ISS 2  
 FILE LAST UPDATED: 7 Jul 2003 (20030707/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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REP G1=(3-3) C  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE  
 L2 51 SEA FILE=REGISTRY SSS FUL L1  
 L3 24 SEA FILE=HCAPLUS ABB=ON PLU=ON L2

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L3 ANSWER 1 OF 24 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2002:539699 HCAPLUS  
 DOCUMENT NUMBER: 137:103865  
 TITLE: Peptide conjugates, pharmaceutical compositions, and methods for treatment of bacteremia and/or septicemia  
 INVENTOR(S): Ofek, Itzhak; Fridkin, Matityahu; Tsubery, Haim  
 PATENT ASSIGNEE(S): Ramot University Authority for Applied Research & Industrial Development Ltd., Israel; Yeda Research and

SOURCE: Development Co., Ltd.  
PCT Int. Appl., 80 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002055543	A2	20020718	WO 2002-IL38	20020116
WO 2002055543	A3	20030206		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MX, MY, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-261212P P 20010116

OTHER SOURCE(S): MARPAT 137:103865

AB The invention provides conjugates of bacterial outer membrane binding peptides, preferably having bacterial sensitization activity, and immune cell chemotactic peptides, and pharmaceutical compns. contg. them, which are useful in the treatment of bacteremia and/or septicemia following infection by Gram-neg. bacteria, administered alone or in combination with conventional antibiotics.

IT 442878-14-0D, peptide-contg.

RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(peptide conjugates, pharmaceutical compns., and methods for treatment of bacteremia and/or septicemia)

L3 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:896749 HCAPLUS

DOCUMENT NUMBER: 136:200464

TITLE: Epimerization of peptide nucleic acids analogs during solid-phase synthesis: optimization of the coupling conditions for increasing the optical purity

AUTHOR(S): Corradini, Roberto; Sforza, Stefano; Dossena, Arnaldo; Palla, Gerardo; Rocchi, Raniero; Filira, Ferdinando; Nastri, Flavia; Marchelli, Rosangela

CORPORATE SOURCE: Dipartimento di Chimica Organica e Industriale, University of Parma, Parma, I-43100, Italy

SOURCE: Journal of the Chemical Society, Perkin Transactions 1 (2001), (20), 2690-2696  
CODEN: JCSPCE; ISSN: 1472-7781

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Peptide nucleic acid (PNA) analogs based on N.alpha.-(thymin-1-ylacetyl)ornithine were previously shown to form triplexes with complementary RNA. In order to obtain optically pure compds. for hybridization expts., chiral monomers based on D- or L-ornithine, N.delta.-Fmoc-N.alpha.-(thymin-1-ylacetyl)ornithine 2 and N.delta.-Fmoc-N.alpha.-(uracil-1-ylacetyl)ornithine 3 were synthesized either by a one-step or by a simple three-step procedure starting from N.delta.-protected ornithine; the latter procedure led to enantiomerically pure products. Oligomerization of 2 and 3 was carried out either in soln., or by solid-phase peptide synthesis (SPPS) on an MBHA-Rink amide

resin. The oligomers turned out to contain large amts. of epimerization products, esp. those obtained by SPPS. Therefore, we examd. carefully the parameters which may be involved in epimerization: the nature of the coupling reagent, of the base, and the addn. mode. Coupling of the monomer L-3 was performed under various conditions. Lower racemization was found to occur when using (7-azabenzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate (HATU) as coupling agent and 2,4,6-trimethylpyridine (sym-collidine, TMP) as base, without preactivation, leading to a residual 4% of the D-enantiomer. By applying a procedure based on the stepwise addn. of the base the D-enantiomer content was reduced to less than 1%. Using this procedure, a decamer of L-3 was synthesized, which was shown to contain less than 2% of the D-ornithine deriv.

IT 400747-81-1P 400747-88-8P 400747-94-6P  
400748-06-3P 400748-12-1P 400748-18-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of ornithine PNAs with redn. of epimerization by optimization of the coupling conditions)

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:408818 HCAPLUS  
DOCUMENT NUMBER: 135:180940  
TITLE: Synthesis of polycationic peptide analog of oligodeoxythymidylic acid  
AUTHOR(S): Kwan, Chul Khyun  
CORPORATE SOURCE: Kafedra Khim. Prir. Soedinenii, Mosk. Gos. Univ., Moscow, Russia  
SOURCE: Vestnik Moskovskogo Universiteta, Seriya 2: Khimiya (2001), 42(2), 128-130  
CODEN: VMUKA5; ISSN: 0579-9384  
PUBLISHER: Izdatel'stvo Moskovskogo Universiteta  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian  
OTHER SOURCE(S): CASREACT 135:180940

AB A synthesis of new polycationic peptide analog of oligodeoxythymidylic acid on the base of D-ornithine dodecamer, namely 5-N-(L-phenylalanyl)-deca-5-N-[2'-N-(thyminyl-1-alanyl)-L-ornithyl]-L-alanine was developed.

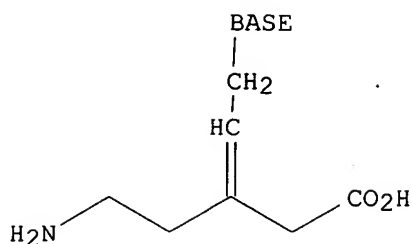
IT 354821-33-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(solid phase synthesis of polycationic peptide analog of oligodeoxythymidylic acid)

L3 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:258582 HCAPLUS  
DOCUMENT NUMBER: 133:89771  
TITLE: Olefinic peptide nucleic acids (OPAs): new aspects of the molecular recognition of DNA by PNA  
AUTHOR(S): Schutz, Rolf; Cantin, Michel; Roberts, Christopher; Greiner, Beate; Uhlmann, Eugen; Leumann, Christian  
CORPORATE SOURCE: Department of Chemistry and Biochemistry, University of Bern, Bern, 3012, Switz.  
SOURCE: Angewandte Chemie, International Edition (2000), 39(7), 1250-1253  
CODEN: ACIEF5; ISSN: 1433-7851  
PUBLISHER: Wiley-VCH Verlag GmbH  
DOCUMENT TYPE: Journal  
LANGUAGE: English

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AB In order to study the structural and electrostatic effect of the PNA rotameric forms, the authors have synthesized olefinic polyamide nucleic acids (OPAs) in which the central amide functionality was replaced by an isostructural, configurationally stable C-C double bond in either the Z or E configuration (I; BASE = thymidine or adenine), and used them to prep. (E)- or (Z)-OPA oligomers. A series of mono-substituted PNAs and fully-modified (E) and (Z)-OPAs were synthesized and their duplex-forming behavior with DNA studied. Both (E)- and (Z)-OPAs bound to complementary DNA with similar affinities as DNA itself, but in contrast to PNA, OPA2/DNA triplexes were not formed, and OPA preferentially bound in the parallel mode to DNA. Results led to the conclusion that amide functionality in the base-linked unit in PNA detd. significantly the affinity and preferred strand orientation in PNA/DNA duplexes, and seemed to be responsible for the propensity to form PNA2/DNA triplexes; these properties do not depend on the conformational constraints that the amide functionality exerts on the base-linker unit, but rather on its electrostatic properties.

IT 178036-67-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and characteristics of olefinic peptide nucleic acids as PNA  
analogs for mol. recognition of DNA)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:209948 HCAPLUS

DOCUMENT NUMBER: 132:255952

TITLE: Cationic dendrimers and their use as macromolecular  
carriers

INVENTOR(S): Florence, Alexander T.; Wilderspin, Andrew F.; Toth,  
Istvan; Sakthivel, Thiagarajan; Bayele, Henry K.

PATENT ASSIGNEE(S): School of Pharmacy, University of London, UK

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000016807	A1	20000330	WO 1999-GB3189	19990923
W: GB, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1115428	A1	20010718	EP 1999-947667	19990923
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002526456	T2	20020820	JP 2000-573768	19990923

## PRIORITY APPLN. INFO.:

EP 1998-307712 A 19980923  
 GB 1999-21478 A 19990910  
 WO 1999-GB3189 W 19990923

AB Dendrimers comprising a dendritic polypeptide with one dendron having terminal cationic groups and a lipid anchor, preferably comprising C6-24-alkyl group contg. .alpha.-amino acyl groups, preferably joined to the focal group, are used to assist transfection of cells in vitro and in vivo by DNA. The complex of dendrimer and DNA may be used in gene therapy, for instance to delivery clotting factor genes to cells.

IT 261167-30-ODP, derivs. 261167-31-1DP, derivs.

261167-33-3P

RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(cationic dendrimers and their use as macromol. carriers)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:653455 HCAPLUS

DOCUMENT NUMBER: 132:227244

TITLE: Novel cationic lipid peptide dendrimer vectors. In vitro gene delivery

AUTHOR(S): Toth, I.; Sakthivel, T.; Wilderspin, A. F.; Bayele, H.; O'Donnell, M.; Perry, D. J.; Pasi, K. J.; Lee, C. A.; Florence, A. T.

CORPORATE SOURCE: Department of Pharmaceutical and Biological Chemistry, The School of Pharmacy, University of London, London, WC 1N 1AX, UK

SOURCE: S.T.P. Pharma Sciences (1999), 9(1), 93-99

CODEN: STSSE5; ISSN: 1157-1489

PUBLISHER: Editions de Sante

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cationic lipid dendrimers with a well-defined diam. and a precise no. of terminal amines (8-32 groups) were synthesized using a solid support. The application of dendrimers with widely varied geometries in gene delivery has been studied by estg. transfection efficiency of members of the series, with variable branch length, position of attachment of lipid, the presence of a sugar unit and presence of a nuclear localization signal peptide. The transfection activity of the products was assayed in vitro on Cos-7 (fibroblast) cells. Two dendrimers displayed high transfection activities. Results indicated that the presence of more amino groups on the surface of the dendrimers could enhance gene delivery. A primary physicochem. characterization of the DNA/lipid complexes demonstrated the min. amt. of dendrimer required for the transfection of 2.5 .mu.g plasmid (10 .mu.g/mL for the dendrimers with eight free amino terminals and 5 and 2.5 .mu.g/mL for the dendrimers with 16 and 32 free amino terminals, resp.).

IT 261167-30-OP 261167-31-1P 261167-32-2P

261167-33-3P

RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(cationic lipid peptide dendrimer vectors for in vitro gene delivery)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:500245 HCAPLUS

DOCUMENT NUMBER: 131:235657

TITLE: Accelerated optical holographic recording using

bis-DNO  
 AUTHOR(S): Rasmussen, Palle H.; Ramanujam, P. S.; Hvilsted, Soren; Berg, Rolf H.  
 CORPORATE SOURCE: Riso National Laboratory, Roskilde, DK-4000, Den.  
 SOURCE: Tetrahedron Letters (1999), 40(32), 5953-5956  
 CODEN: TELEAY; ISSN: 0040-4039  
 PUBLISHER: Elsevier Science Ltd.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The design, synthesis and optical holog. recording properties of bis-DNO are reported. Bis-DNO is composed of two identical azobenzene oligoornithine segments (DNO) connected via a dipeptide linker. The two segments were assembled in a parallel fashion at the two amino groups of the dipeptide linker by Merrifield synthesis. Surprisingly, the response time of films of bis-DNOs was found to be much faster than that of their linear counterparts.  
 IT 244061-02-7  
 RL: TEM (Technical or engineered material use); USES (Uses) (accelerated optical holog. recording using bis-DNO composed of two identical azobenzene oligoornithine segments (DNO) connected via dipeptide linker)  
 REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT  
 L3 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1999:469771 HCAPLUS  
 DOCUMENT NUMBER: 131:257847  
 TITLE: Pseudopeptide structures for reversible holographic storage and combinatorial applications  
 AUTHOR(S): Rasmussen, Palle H.  
 CORPORATE SOURCE: Riso National Laboratory, Roskilde, Den.  
 SOURCE: Risoe National Laboratory, [Report] Risoe-R (1999), Risoe-R-1124, i-vii, 1-154  
 CODEN: RNL RDF; ISSN: 0106-2840  
 DOCUMENT TYPE: Report  
 LANGUAGE: English  
 AB This PhD thesis is divided in two sep. parts. Part 1 deals with design and synthesis of new peptide-based structures for holog. data storage. It has previously been shown that holograms can be recorded in oligomers (DNO; diamino acid N.alpha.-substituted oligopeptides) consisting of peptide-like backbones with azobenzene side chains. The holograms recorded in the original DNO had a no. of favorable properties such as high diffraction efficiency and high resoln. They could be recorded, read, and erased with light, and they had an excellent thermal stability. However, the original DNO also had some serious shortcomings with respect to response time and soly. By performing rational modifications in the mol. geometry, a new generation of DNO has been developed, and these are improved by more than a factor 350 when compared to the original DNO dimer. Furthermore, the new DNOs are sol. in common org. solvents and can be assembled by soln.-phase synthesis, which is mandatory for large-scale fabrication. The new generation of DNO has maintained all of the good properties, e.g., retained reversibility, stability, resoln., and the high diffraction efficiency, of the original DNOs. Part 2 describes the synthesis of new functionalized C3 sym. scaffolds with nanoscale dimensions. The cyclic scaffolds are synthesized in soln. from unnatural amino acids. The structures are intended to serve as core mols. for soln. phase combinatorial chem., and as templates for synthetic receptors. The combinatorial soln.-phase approach (or, the activated core approach) for the synthesis of libraries generally has a limitation due to lack of addressability on the functional groups in the core. This impedes the deconvolution of the libraries and the subsequent synthesis of specific target mols. The lack of addressability has been overcome for the new scaffolds in the synthesis of platforms with selectively removable



protecting groups on their side chains. The platforms were synthesized on a gram scale and their use as core mols. for combinatorial chem. was demonstrated.

IT 184633-50-9 184633-51-0 244785-37-3

RL: PRP (Properties)

(prepn. of azobenzene-contg. pseudopeptide oligomers, DNO, for reversible holog. storage)

IT 244785-43-1P 244785-44-2P 244785-45-3P

244785-46-4P 244785-58-8P 244785-60-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. of azobenzene-contg. pseudopeptide oligomers, DNO, for reversible holog. storage)

REFERENCE COUNT: 87 THERE ARE 87 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:192812 HCAPLUS

DOCUMENT NUMBER: 129:16363

TITLE: Synthesis of chirally pure ornithine based PNA analogs

AUTHOR(S): Van der Laan, Alexander C.; Van Amsterdam, Irene;

Tesser, Godefridus I.; Van Boom, Jacques H.;

Kuyl-Yeheskiely, Esther

CORPORATE SOURCE: Leiden Inst. Chem., Leiden Univ., Leiden, 2300 RA, Neth.

SOURCE: Nucleosides & Nucleotides (1998), 17(1-3), 219-231

CODEN: NUNUD5; ISSN: 0732-8311

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A stereoselective synthesis of a chiral PNA analog contg. an ornithine based backbone is described. In this approach each elongation cycle consists of two individual coupling steps: i.e. extension of the free .delta.-amino function in the growing chain by a TOPPIP mediated coupling with Fmoc-Orn(Boc)-OH, and subsequent acylation of a free .alpha.-amine with thymine-1-ylacetic acid. Thymine decamers were prep'd. following this strategy and hybridization expts. indicated that they formed stable complexes with crNA.

IT 207597-65-7P 207597-66-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of chirally pure ornithine based PNA analogs)

IT 207597-64-6P 207803-03-0P 207803-05-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(synthesis of chirally pure ornithine based PNA analogs)

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:82153 HCAPLUS

DOCUMENT NUMBER: 128:167703

TITLE: Design and synthesis of new types of oligonucleopeptides

AUTHOR(S): Korshunova, Galina A.; Ilicheva, Irina A.; Sumbatyan, natalie V.; Hyun, Kwang-chul

CORPORATE SOURCE: A.N. Belozersky Inst. Physico-Chemical Biol. Chem.

Dep., Moscow State Univ., Moscow, 119899, Russia

SOURCE: Letters in Peptide Science (1997), 4(4/5/6), 473-476

CODEN: LPSCEM; ISSN: 0929-5666

PUBLISHER: Kluwer Academic Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Design and synthesis of oligonucleopeptides (ONPs), structural analogs of oligonucleotides, where the phosphodiester backbone is substituted by a

peptide chain, are described. Oligonucleopeptides, in which the no. of ordinary bonds between the nucleobases is six and the no. of bonds between the backbone and nucleobase is two or four, were constructed using two different approaches. The first way is based on incorporation of thymynylalanine residues into the peptide chain alternatively with glycine residues. Exptl. studies of the stability of oligonucleotide-oligonucleopeptide complexes as well as model estns. of their potential surfaces indicated the low DNA binding efficiency of this type of reagents. The second approach consists of synthesis of .omega.-ornithine peptides followed by modification of the backbone with thymynylacetaldehyde attached to an .alpha.-amino function of ornithine residues through Schiff bases. ONPs were synthesized using the solid-phase method.

IT 202926-79-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(design and synthesis of new types of oligonucleopeptides)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:105200 HCAPLUS

DOCUMENT NUMBER: 126:118198

TITLE: Preparation of branched peptides containing photoactive groups

INVENTOR(S): Berg, Rolf Henrik; Hvilsted, Soeren; Ramanujam, P. S.

PATENT ASSIGNEE(S): Forskningscenter Risoe, Den.; Berg, Rolf Henrik; Hvilsted, Soeren; Ramanujam, P. S.

SOURCE: PCT Int. Appl., 186 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9638410	A1	19961205	WO 1996-DK237	19960603
W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			
AU 9658935	A1	19961218	AU 1996-58935	19960603
EP 828709	A1	19980318	EP 1996-916021	19960603
EP 828709	B1	20020918		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
AT 224362	E	20021015	AT 1996-916021	19960603
ES 2183954	T3	20030401	ES 1996-916021	19960603
US 6376655	B1	20020423	US 1997-973179	19971202

PRIORITY APPLN. INFO.: DK 1995-628 A 19950602

WO 1996-DK237 W 19960603

AB The invention relates to novel monodisperse or polydisperse compds., in general named DNO (diamino acid N.alpha.-substituted oligopeptides), preferably low mol. wt. polypeptides, e.g., based on ornithine, lysine, diaminobutyric acid, diaminopropionic acid, aminoethylglycine or other amino acids or peptides having azobenzenes or other phys. functional groups, e.g., photoresponsive groups, as side chains. These compds. may be synthesized using solid phase peptide synthesis techniques. Materials, e.g. thin films, comprising such compds. may be used for optical storage of information (holog. data storage), nonlinear optics (NLO), as photoconductors, photonic band-gap materials, elec. conducting materials,

electroluminescent materials, piezo-elec. materials, pyroelec. materials, magnetic materials, ferromagnetic materials, ferroelec. materials, photorefractive materials, or materials in which light-induced conformational changes can be produced. Optical anisotropy may reversibly be generated with polarized laser light whereby a hologram is formed. First order diffraction efficiencies of up to around 80% have been obtained.

IT 184633-50-9P 184633-51-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of branched peptides contg. photoactive groups)

L3 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:625776 HCAPLUS  
DOCUMENT NUMBER: 126:39584  
TITLE: Peptide oligomers for holographic data storage  
AUTHOR(S): Berg, Rolf H.; Hvilsted, Soeren; Ramanujam, P. S.  
CORPORATE SOURCE: Risoe Natl. Lab., Roskilde, Den.  
SOURCE: Nature (London) (1996), 383(6600), 505-508  
CODEN: NATUAS; ISSN: 0028-0836  
PUBLISHER: Macmillan Magazines  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Several classes of org. materials (such as photoanisotropic liq.-cryst. polymers and photorefractive polymers) are being investigated for the development of media for optical data storage. Here we describe a new family of org. materials-peptide oligomers contg. azobenzene chromophores-which appear particularly promising for erasable holog. data storage applications. The rationale for our approach is to use the structural properties of peptide-like mols. to impose orientational order on the chromophores, and thereby optimize the optical properties of the resulting materials. Here we show that holog. gratings with large first-order diffraction efficiencies (up to 80%) can be written and erased optically in oligomer films only a few micrometers thick. The holograms also exhibit good thermal stability, and are not erased after heating to 180.degree.C for one month. Straightforward extension of this peptide-based strategy to other mol. structures should allow the rationale design of a wide range of org. materials with potentially useful optical properties.

IT 184633-50-9P 184633-51-0P

RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(peptide oligomers for holog. data storage)

L3 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2003 ACS

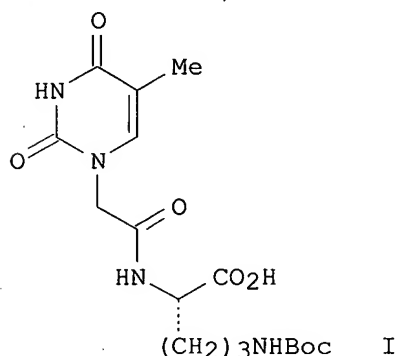
ACCESSION NUMBER: 1996:340170 HCAPLUS  
Correction of: 1996:234106  
DOCUMENT NUMBER: 125:2444  
Correction of: 124:308720  
TITLE: Gel shift assay: demonstration of enhanced binding of oligo(.delta.)-L-ornithine-oligodeoxynucleotide conjugates to complementary DNA and RNA  
AUTHOR(S): Zhu, Tianmin; Pooyan, Shahriar; Wei, Ziping; Leibowitz, Michael J.; Stein, Stanley  
CORPORATE SOURCE: Cent. Adv. Biotechnol. Med., Piscataway, NJ, 08854, USA  
SOURCE: Antisense & Nucleic Acid Drug Development (1996), 6(1), 69-74  
CODEN: ANADF5; ISSN: 1087-2906  
PUBLISHER: Liebert  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB An increase in melting temp. for DNA:DNA duplexes had been obsd. previously (Zhu et al. Antisense Res. Dev. 3:349-356, 1993) when an

oligo(.delta.)ornithine moiety was covalently appended to a short oligodeoxynucleotide. We now report the anal. of duplex formation by electrophoretic gel shift anal. In the particular example studied, an increase in T<sub>m</sub> of 4.degree. was found to correspond to about a 5-fold increase in binding const. A similar enhancement by the appended cationic peptide was obsd. when the target strand was RNA. The use of a competitive assay format for avoidance of adsorptive loss at low concns. (<10<sup>-7</sup>M) of the oligonucleotide-oligo(.delta.)ornithine conjugate is presented.

IT **176390-30-0D**, oligodeoxyribnucleotide conjugates  
 RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)  
 (enhanced binding of oligo(.delta.)-L-ornithine-oligodeoxynucleotide conjugates to complementary DNA and RNA)

L3 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1996:265550 HCAPLUS  
 DOCUMENT NUMBER: 125:59113  
 TITLE: Synthesis and oligomerization of N.delta.-Boc-N.alpha.-(thymine-1-ylacetyl)ornithine  
 AUTHOR(S): Petersen, Kenneth H.; Buchardt, Ole; Nielsen, Peter E.  
 CORPORATE SOURCE: Center Biomol. Recognition H. C. Orsted Inst., Univ. Copenhagen, Copenhagen, DK-2100, Den.  
 SOURCE: Bioorganic & Medicinal Chemistry Letters (1996), 6(7), 793-6  
 CODEN: BMCLE8; ISSN: 0960-894X  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



AB The synthesis of a new DNA analog I (Boc = Me<sub>3</sub>CO<sub>2</sub>C) based on ornithine is described. Only the thymine analog was synthesized. A 10 mer entirely made up of I forms a triple helix with poly(A). The T<sub>m</sub> of the triplex was 21.degree..

IT **175431-23-9P**  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and oligomerization of a protected (thymineylacetyl)ornithine)

IT **177913-36-9P 178036-67-4P 178036-67-4P**  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and oligomerization of a protected (thymineylacetyl)ornithine)

L3 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2003 ACS

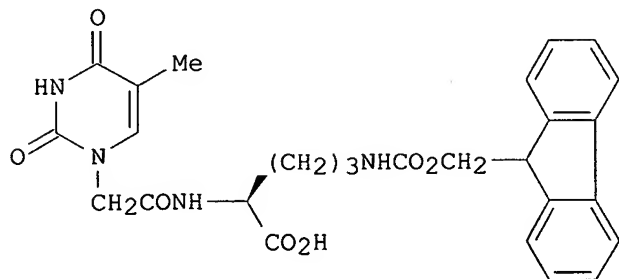
ACCESSION NUMBER: 1996:234106 HCAPLUS  
 DOCUMENT NUMBER: 124:308720  
 TITLE: Gel shift assay: demonstration of enhanced binding of oligo(.delta.)-L-ornithine-oligodeoxynucleotide conjugates to complementary DNA and RNA  
 AUTHOR(S): Zhu, Tianmin; Pooyan, Shahriar; Wei, Ziping; Leibowitz, Michael J.; Stein, Stanley  
 CORPORATE SOURCE: Center Advanced Biotechnol. Med., Piscataway, NJ, 08854, USA  
 SOURCE: Antisense & Nucleic Acid Drug Development (1996), 6(1), 69-74  
 CODEN: ANADF5; ISSN: 1087-2906  
 PUBLISHER: Liebert  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB An increase in melting temp. for DNA:DNA duplexes had been obsd. previously (Zhu et al. Antisense Res. Dev. 3:349-356, 1993) when an oligo(.delta.)ornithine moiety was covalently appended to a short oligodeoxynucleotide. We now report the anal. of duplex formation by electrophoretic gel shift anal. In the particular example studied, an increase in  $T_m$  of 4.degree. was found to correspond to about a 5-fold increase in binding const. A similar enhancement by the appended cationic peptide was obsd. when the target strand was RNA. The use of a competitive assay format for avoidance of adsorptive loss at low concns. (<10<sup>-7</sup>M) of the oligonucleotide-oligo(.delta.)ornithine conjugate is presented.

IT 176390-30-0D, oligodeoxynucleotide conjugates  
 RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)  
 (enhanced binding of oligo(.delta.)-L-ornithine-oligodeoxynucleotide conjugates to complementary DNA and RNA)

L3 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:94448 HCAPLUS  
 DOCUMENT NUMBER: 124:290226  
 TITLE: Synthesis of a new chiral peptide analog of DNA using ornithine subunits and solid-phase peptide synthesis methodologies  
 AUTHOR(S): Liyo, Eduardo; Kessler, Horst  
 CORPORATE SOURCE: Inst. Organische Chemie Biochemie, Technischen Univ. Muenchen, Garching, D-85747, Germany  
 SOURCE: Liebigs Annalen (1996), (2), 201-4  
 CODEN: LANAEM; ISSN: 0947-3440  
 PUBLISHER: VCH  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 GI



I

AB The synthesis of 3 chiral peptide nucleic acids by SPPS methodologies according to the Fmoc strategy starting from L- or D-ornithine and thymine via the chiral monomer I and its enantiomer is described.

IT 175431-23-9DP, resin bound 175431-25-1DP, resin bound 175431-26-2DP, resin bound  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of chiral DNA peptide analogs with ornithine subunits)

IT 175431-23-9P 175431-25-1P 175431-26-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis of chiral DNA peptide analogs with ornithine subunits)

L3 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:994981 HCAPLUS

DOCUMENT NUMBER: 124:108909

TITLE: Cyclic polycationic polymer-oligonucleotide conjugates and methods for preparing same

INVENTOR(S): Stein, Stanley; Wei, Ziping; Zhu, Tianmin; Tung, Ching-Hsuan

PATENT ASSIGNEE(S): University of Medicine and Dentistry of New Jersey, USA

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9524222	A1	19950914	WO 1995-US2894	19950307
W:	AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN			
RW:	KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9521169	A1	19950925	AU 1995-21169	19950307
PRIORITY APPLN. INFO.:			US 1994-207438	A 19940307
			WO 1995-US2894	W 19950307

AB Provided are cyclic polycationic polymer-oligonucleotide conjugates comprising a polycationic polymer covalently bonded at each end to the 3'- and 5'- terminal nucleotides of a polyanionic oligonucleotide via a crosslinking agent. The polycationic polymer may be represented by R2[XR1CH(NH2)CO]aR3 (I), R2[XR6R7COXC(R4R5)HCO]aR3 (II), R2[XC(R4R5)HCOXR6(R7)CO]aR3 (III), R1-[NH(CH2)b]c[NH(CH2)d]e]f[NH(CH2)g]h-NHR2 (IV), R2[XC(R4R5)HCO]iR3 (V), R2[XR6(R7)COXC(R4R5)HCOXR6(R7)CO]aR3 (VI), R2[XC(R4R5)HCOXR6(R7)COXC(R4R5)HCO]aR3 (VII), or R2[XCR4R5HCOXC(R4R5)HCOXR6(R7)CO]aR3 (VIII) (R1 through R7, X, and a through i, are defined). The polycationic polymer linked in a cyclic fashion to the polyanionic oligonucleotide helps the oligonucleotide bind to complementary strands through the interactions with the oligonucleotide. The cyclic conjugates have applications in antisense and anti-gene fields. Prepn. of TTTATT-Cys(Leu-Lys)2-Lys(Leu-Lys)2Cys-CATTTC conjugate which was then cyclized by DNA T4 ligase was shown.

IT 171772-43-3P  
 RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (polycationic polymer; for cyclic peptide-oligonucleotide conjugates prepn. and its use as antisense DNA)

L3 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:994167 HCAPLUS

DOCUMENT NUMBER: 124:66581

TITLE: Triplex-forming paired-ion oligonucleotides and methods for preparing and using same

INVENTOR(S): Stein, Stanley; Tung, Ching-Hsuan

PATENT ASSIGNEE(S): University of Medicine and Dentistry of New Jersey, USA

SOURCE: PCT Int. Appl., 51 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9520404	A1	19950803	WO 1994-US1090	19940131
W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9461682	A1	19950815	AU 1994-61682	19940131
PRIORITY APPLN. INFO.: WO 1994-US1090 W 19940131				
AB	A triple-stranded DNA useful in gene therapy which comprises a paired-ion oligonucleotide bound to a complementary double-stranded DNA, wherein the paired ion oligonucleotide comprises a polyanionic triplex-forming oligonucleotide covalently bonded to a polycationic polymer via a crosslinking agent.			
IT	<b>156311-81-8P</b>			
	RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)			
	(prepn. of triplex-forming paired-ion oligonucleotides for therapeutic use)			

L3 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:820573 HCAPLUS

DOCUMENT NUMBER: 123:257406

TITLE: Preparation of nucleic acid-binding oligomers with amino acid-containing backbones and nucleobase-containing side chains for therapy and diagnosis.

INVENTOR(S): Loebberding, Antonius; Mielke, Burkhard; Schwemler, Chrostoph; Schwenner, Eckhardt; Stropp, Udo; Springer, Wolfgang; Kretschmer, Axel; Poetter, Thorsten

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 46 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

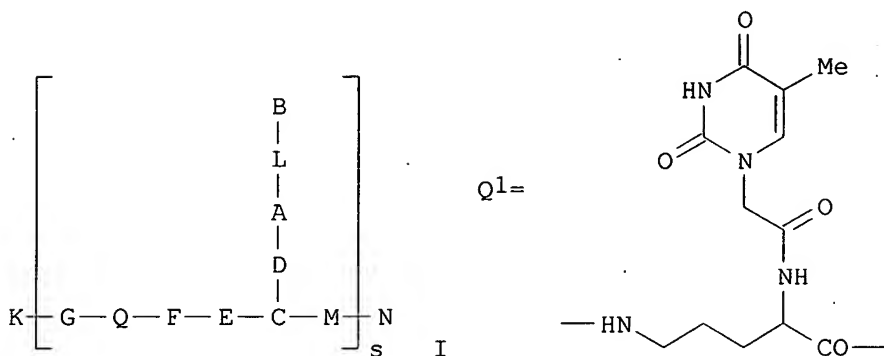
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4331011	A1	19950316	DE 1993-4331011	19930913
EP 646596	A1	19950405	EP 1994-113573	19940831
EP 646596	B1	19990526		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, SE				
AT 180494	E	19990615	AT 1994-113573	19940831
ES 2131612	T3	19990801	ES 1994-113573	19940831
AU 9471619	A1	19950323	AU 1994-71619	19940901

JP 07112969	A2	19950502	JP 1994-238619	19940907
CA 2131760	AA	19950314	CA 1994-2131760	19940909
US 5849893	A	19981215	US 1996-719048	19960924
PRIORITY APPLN. INFO.:			DE 1993-4331011	19930913
			US 1994-300910	19940906
OTHER SOURCE(S):		MARPAT 123:257406		
GI				



AB Title compds. [I; A = CO, CHR, CRR'; R, R' = H, Oh, alkyl, aralkyl, aryl; B = H, OH, alkanoyl, DNA intercalator, aryl, heterocyclyl, (modified) naturally occurring nucleobase; C = CH, CR; D = NH, CH2, CHR, CRR'; E = NR, CHR, CRR', O, S; A can be bonded to E via (CH2)n; n = 0-2; F = CH2, CO, SO2, SO, CS; Q = (CR1R2)m; m = 0-2; R1, R2 = (un)natural amino acid residue; G can be bonded to Q by (CH2)n; G = NH, NR, O, S; M = CH2, CO, SO2, SO, CS; L = (CH2)p, CHR, CRR'; p = 0-2; K, N = H, carrier system, reporter ligand, soly. enhancing group; s = 1-30], were prepd. for control of gene expression (no data). Thus, H-(Q1)3-Gly-OH was prepd. by solid phase synthesis using BOC-protected reactants (prepn. given) on phenylacetamidomethyl resin. Title compds. are said to have antiviral activity.

IT 168264-35-5P 168264-36-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of nucleic acid-binding oligomers with amino acid-contg. backbones and nucleobase-contg. side chains for therapy and diagnosis)

L3 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:15800 HCAPLUS

DOCUMENT NUMBER: 122:56488

TITLE: Preparation of Vitamin B6-Conjugated Peptides at the Amino Terminus and of Vitamin B6-Peptide-Oligonucleotide Conjugates

AUTHOR(S): Zhu, Tianmin; Stein, Stanley

CORPORATE SOURCE: Center for Advanced Biotechnology and Medicine, Piscataway, NJ, 08854, USA

SOURCE: Bioconjugate Chemistry (1994), 5(4), 312-15  
CODEN: BCCHE; ISSN: 1043-1802

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of N-(4'-pyridoxyl)peptides has been made by std. 9-fluorenylmethoxycarbonyl (Fmoc) chem. and a solid-phase coupling procedure. The last Fmoc group of the peptide was removed on the synthesizer, and the free amino group was then condensed with pyridoxal. The Schiff base formed was selectively reduced using sodium



cyanoborohydride. The product was cleaved from the resin using a std. procedure. No deleterious effects were found when using the protected amino acids Fmoc-L-Ala-OH, Fmoc-L-Arg(Pmc)-OH (Pmc = 2,2,5,7,8-pentamethylchroman-6-sulfonyl), Fmoc-L-Asp(OCMe3)-OH, Fmoc-L-His(CMe3)-OH, Fmoc-L-Ser(CMe3)-OH, Fmoc-L-Thr(CMe3)-OH, and Fmoc-L-Cys(CMe3)-OH for peptide synthesis. A vitamin B6-peptide-oligonucleotide conjugate could be synthesized using a cysteinyl peptide and a suitably activated oligonucleotide.

IT 160056-07-5P 160056-09-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, via solid-phase peptide synthesis and on-resin reductive alkylation with pyridoxal)

IT 160056-08-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, via solid-phase peptide synthesis and on-resin reductive alkylation with pyridoxal, and S-alkylation of, with (iodoacetyl)oligonucleotide)

L3 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:4160 HCAPLUS

DOCUMENT NUMBER: 122:139492

TITLE: Oligonucleotide-poly-L-ornithine conjugates: binding to complementary DNA and RNA

AUTHOR(S): Zhu, Tianmin; Wei, Ziping; Tung, Ching Hsuan; Dickerhof, Walter A.; Breslauer, Kenneth J.; Georgopoulos, Denise E.; Leibowitz, Michael J.; Stein, Stanley

CORPORATE SOURCE: Cent. Adv. Biotechnol. Med., Piscataway, NJ, 08854, USA

SOURCE: Antisense Research and Development (1993), 3(3), 265-75

CODEN: AREDEI; ISSN: 1050-5261

DOCUMENT TYPE: Journal

LANGUAGE: English

AB On the basis of the reported enhanced antisense activity of polylysine-oligonucleotide conjugates, a synthetic 12-mer oligodeoxyribonucleotide has been coupled at its 5' terminus to a series of pos. charged (.delta.-ornithine)ncysteine peptides. Binding between the nucleic acid-peptide conjugate and its complementary DNA target sequence was detected by the impact of complexation on the melting temp. (Tm). It was found that the Tm for the nucleic acid-peptide gradually increased with increasing net charge on the conjugated peptide. Site-directed cleavage with RNase H demonstrates that the peptide-modified oligomer also hybridizes with its RNA target sequence. Increased affinity for target mRNA with net charge was shown by a cell-free translation arrest assay.

IT 160741-45-7P 160741-46-8P 160741-47-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(oligonucleotide-polyornithine conjugates binding to complementary DNA and RNA)

L3 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:580123 HCAPLUS

DOCUMENT NUMBER: 121:180123

TITLE: Paired-ion oligonucleotides and methods for preparing same

INVENTOR(S): Tung, Ching Hsuan; Tung, Ching-hsuan; Zhu, Tianmin

PATENT ASSIGNEE(S): University of Medicine and dentistry of New Jersey, USA

SOURCE: PCT Int. Appl., 52 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9320090	A1	19931014	WO 1993-US3161	19930405
W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9339454	A1	19931108	AU 1993-39454	19930405
PRIORITY APPLN. INFO.:			US 1992-850555	19920406
			WO 1993-US3161	19930405

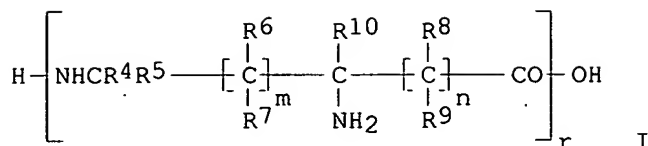
AB A paired-ion oligonucleotide comprising a polyanionic oligonucleotide covalently bonded to a polycationic polymer via a crosslinking agent, was prepd. The products have enhanced hybridization strengths. Thus, the pseudopeptide-linked oligonucleotide I [X = maleimidobenzoylaminoethyl] was prepd. from the pseudopeptide and the oligonucleotide. I was more effective in inhibiting the translation of its target mRNA from killer virus of yeast into protein than the unconjugated 5'-CATTCTTTATT-3'.

IT **156311-81-8P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and reaction of, in prepn. of oligonucleotide-pseudoprotein conjugate)

L3 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 1990:99263 HCAPLUS  
 DOCUMENT NUMBER: 112:99263  
 TITLE: Preparation of antitumor isopolypeptides and pharmaceutical compositions  
 INVENTOR(S): Szokan, Gyula; Tyihak, Erno; Szende, Bela; Lapis, Karoly; Gaborjanyi, Richard; Almas, Marta  
 PATENT ASSIGNEE(S): Magyar Tudomanyos Akademia, Kutatas- es Szervezetelemzo Intezet, Hung.; Magyar Tudomanyos Akademia, Novenyvedelmi Kutato Intezet  
 SOURCE: Fr. Demande, 44 pp.  
 CODEN: FRXXBL  
 DOCUMENT TYPE: Patent  
 LANGUAGE: French  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2622195	A1	19890428	FR 1988-13807	19881021
HU 48279	A2	19890529	HU 1987-4723	19871021
HU 202553	B	19910328		
CN 1033633	A	19890705	CN 1988-107253	19881020
DK 8805859	A	19890422	DK 1988-5859	19881021
SE 8803765	A	19890422	SE 1988-3765	19881021
FI 8804890	A	19890422	FI 1988-4890	19881021
NL 8802604	A	19890516	NL 1988-2604	19881021
DE 3835962	A1	19890601	DE 1988-3835962	19881021
GB 2212810	A1	19890802	GB 1988-24694	19881021
ES 2012559	A6	19900401	ES 1988-3218	19881021
JP 02124861	A2	19900514	JP 1988-264255	19881021
PRIORITY APPLN. INFO.:			HU 1987-4723	19871021

GI



AB The title compds. [I; R<sup>4</sup>-R<sup>10</sup> = H, alkyl; r = 10-400; m, n = 0, integer 1-10], useful as antitumor agents, are prepd. BOC-NH(CH<sub>2</sub>)<sub>4</sub>CH(NHZ)CO<sub>2</sub>Q (Q = C<sub>6</sub>H<sub>4</sub>NO<sub>2</sub>-p) was deprotected to give H<sub>2</sub>N(CH<sub>2</sub>)<sub>4</sub>CH(NHZ)CO<sub>2</sub>Q, which was coupled with BOC-NH(CH<sub>2</sub>)<sub>4</sub>CH(NHZ)CO<sub>2</sub>CO<sub>2</sub>CH<sub>2</sub>CHMe<sub>2</sub> (II) to give BOC-NH(CH<sub>2</sub>)<sub>4</sub>CH(NHZ)CONH(CH<sub>2</sub>)<sub>4</sub>CH(NHZ)CO<sub>2</sub>Q. This was coupled with II to give BOC[NH(CH<sub>2</sub>)<sub>4</sub>CH(NHZ)CO]<sub>3</sub>OQ (III). III.HCl was polymd. in Me<sub>2</sub>SO contg. Et<sub>3</sub>N to give poly-.epsilon.-N.alpha.-benzyloxycarbonyl-L-lysine, which was deprotected and treated with HBr to give poly-.epsilon.-L-lysine-HBr. The tetradecamer of isopolylysine at 100 .mu.g/mL in vitro showed 100% inhibition of K-562 cells (5 .times. 10<sup>4</sup>-mL) after 48 h incubation, whereas the concn. of cells grew to 130 .times. 10<sup>3</sup> cells/mL for the control.

IT **125156-34-5P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, as intermediate for antitumor isopolypeptides)

IT **125156-33-4**

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, in prepn. of antitumor isopolypeptides)

L3 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1981:462659 HCAPLUS

DOCUMENT NUMBER: 95:62659

TITLE: Poly(.delta.-L-ornithine)

AUTHOR(S): Mathur, K. B.; Pandey, R. K.; Jagannadham, M. V.;  
Balasubramanian, D.

CORPORATE SOURCE: Med. Chem. Div., Cent. Drug Res. Inst., Lucknow, India

SOURCE: International Journal of Peptide & Protein Research  
(1981), 17(2), 189-96

CODEN: IJPPC3; ISSN: 0367-8377

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB The title isopolypeptide (I) was prepd. by esterifying tripeptide II (BOC = Me<sub>3</sub>CO<sub>2</sub>C, Z = CO<sub>2</sub>CH<sub>2</sub>Ph, R = H) with HOC<sub>6</sub>Cl<sub>5</sub> by DCC, Z-deblocking the resulting II (R = C<sub>6</sub>Cl<sub>5</sub>) by hydrogenolysis over Pd/C in MeOH contg. HCl/THF, polyng. the resulting Z-deblocked tripeptide in Me<sub>2</sub>SO contg. Et<sub>3</sub>N, and BOC-deblocking the resulting protected polymer (III). II (R = H) was prepd. by stepwise peptide couplings in soln. CD data indicated that I and III adopted a conformation in soln. similar to the .beta.-pleated sheet.

IT **78397-46-3P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and acidification of)

IT **78397-45-2P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent).  
(prepn. and esterification of, with pentachlorophenols)

IT **78397-47-4P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and hydrogenolysis of)

IT **78408-95-4P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(prepn. and polymn. of)  
 IT 78397-44-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (prepn. and sapon. of)

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FILE COVERS 1907-1966  
 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 JUL 2003 HIGHEST RN 544408-69-7  
 DICTIONARY FILE UPDATES: 7 JUL 2003 HIGHEST RN 544408-69-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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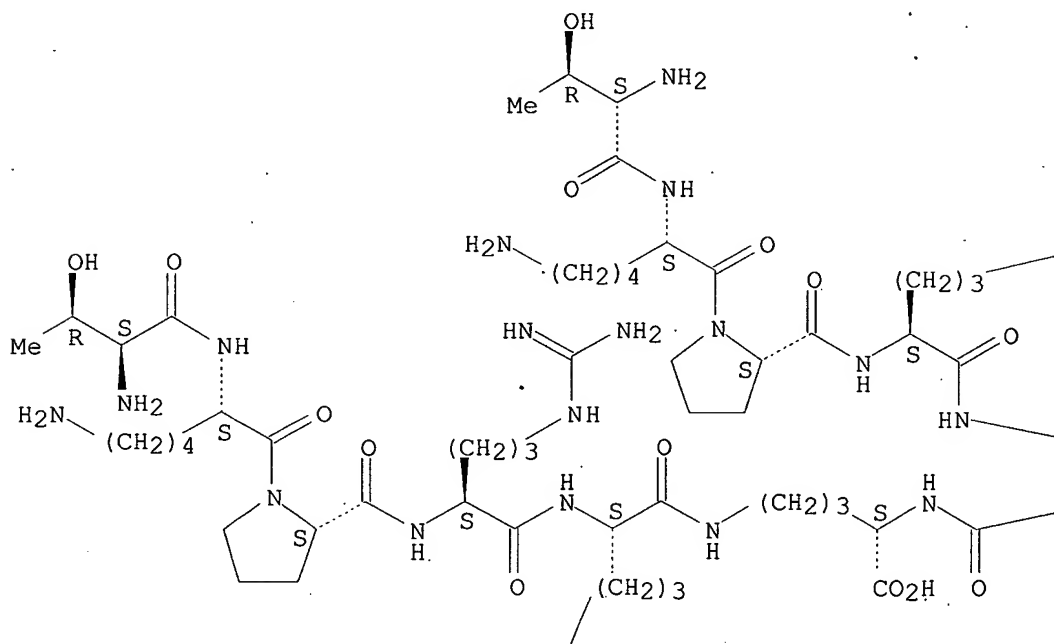
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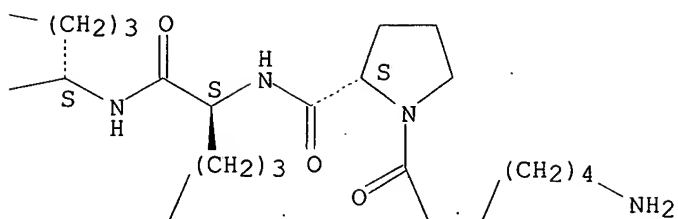
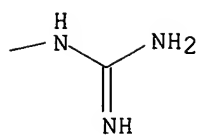
L2 ANSWER 1 OF 51 REGISTRY COPYRIGHT 2003 ACS  
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 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

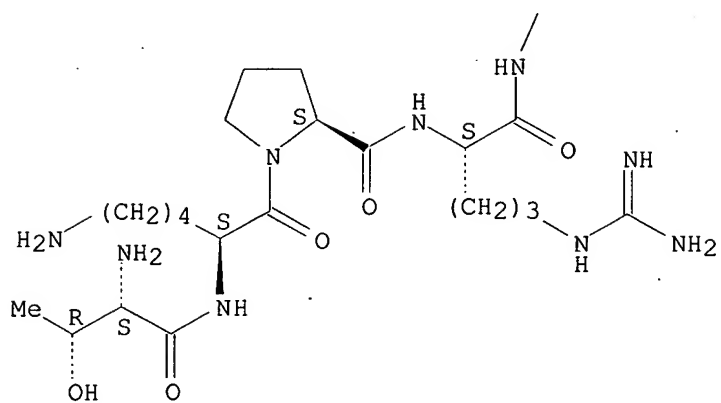
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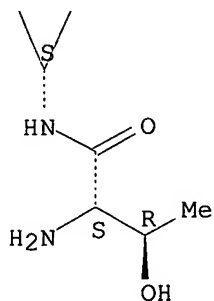
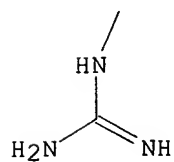
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PAGE 2-A



PAGE 2-B



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RN 400748-18-7 REGISTRY

FS STEREOSEARCH

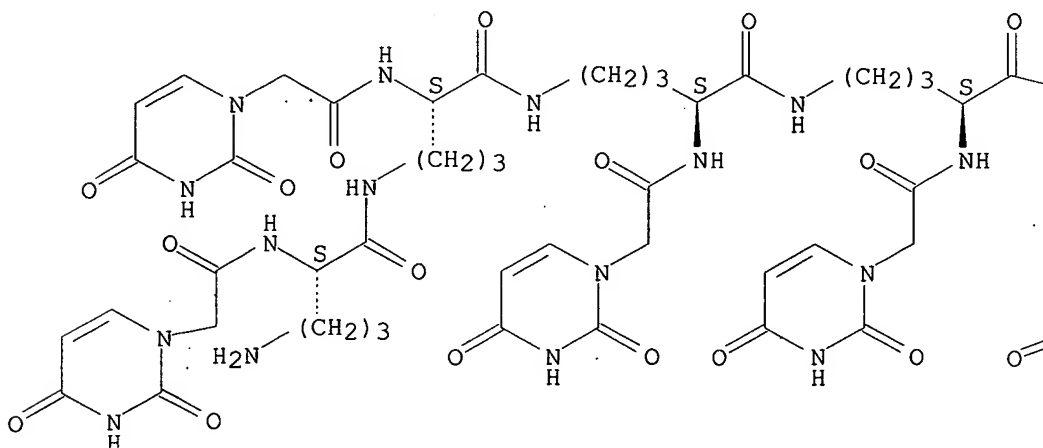
MF C112 H146 N42 O41

SR . CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A

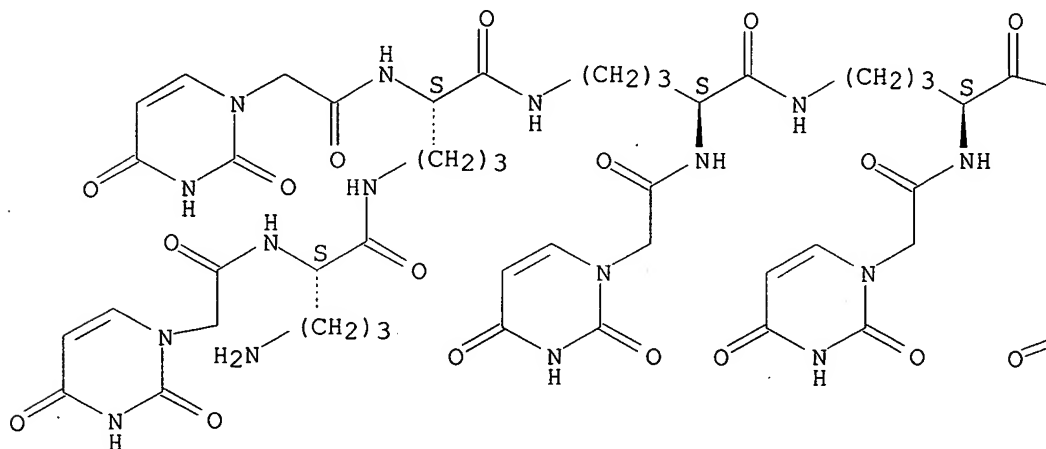


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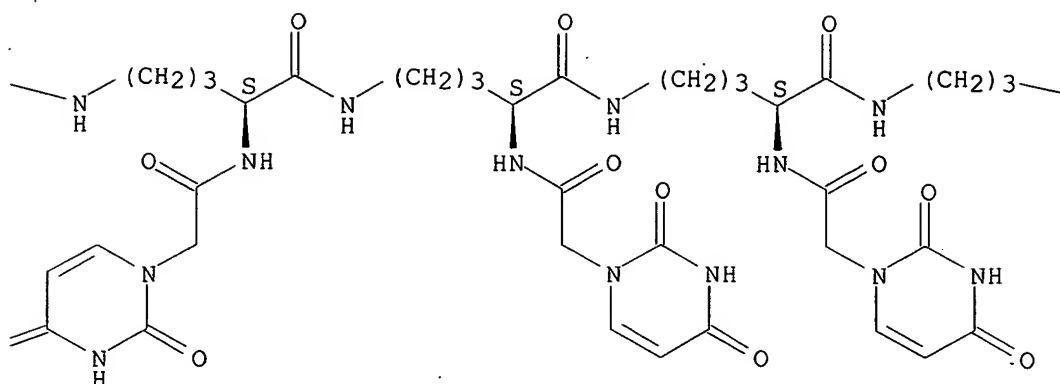
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        [(3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-2,4-
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        pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-2,4-dioxo-1(2H)-
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FS      STEREOSEARCH
MF      C112 H146 N42 O41
SR      CA
LC      STN Files:  CA, CAPLUS
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Absolute stereochemistry.

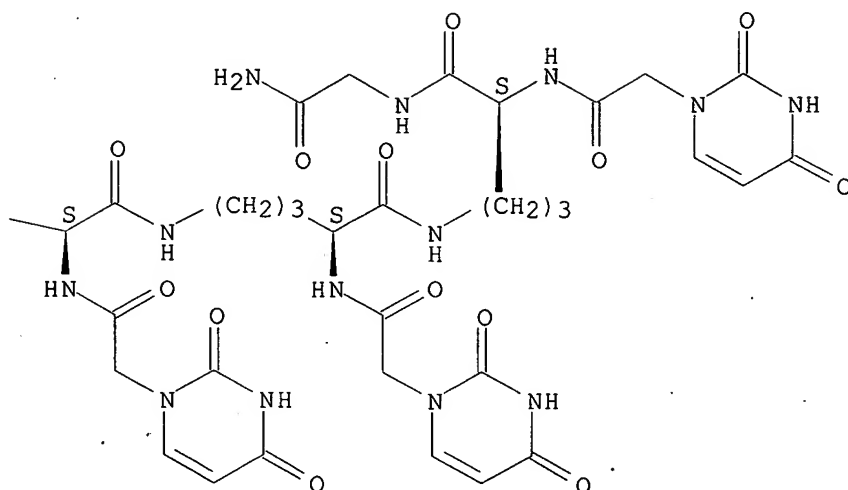
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PAGE 1-C



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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

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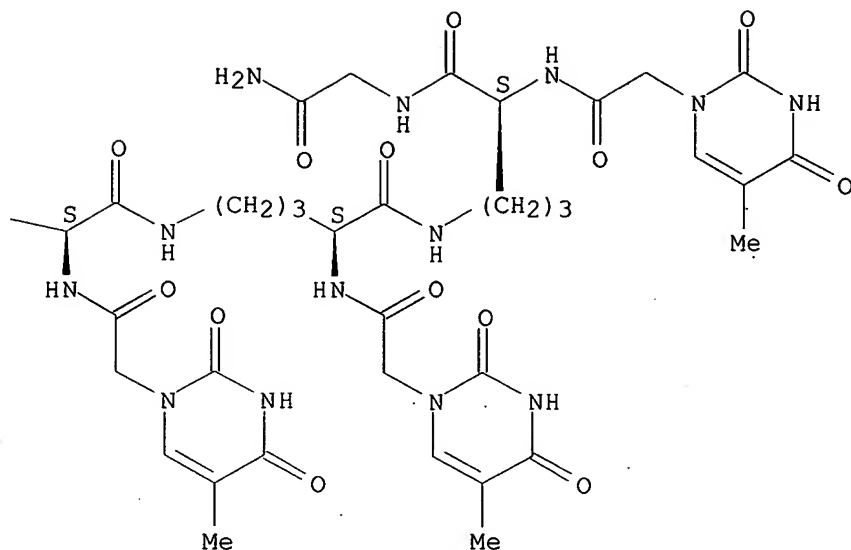
L2 ANSWER 3 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 400748-12-1 REGISTRY

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Absolute stereochemistry.

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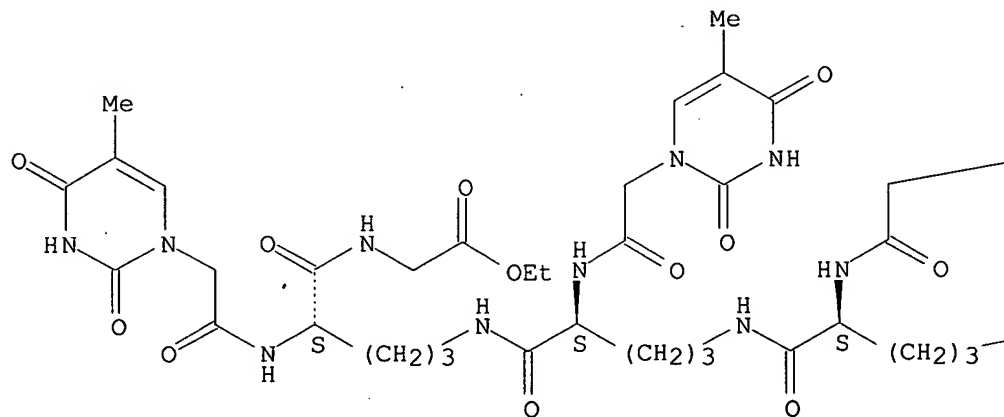


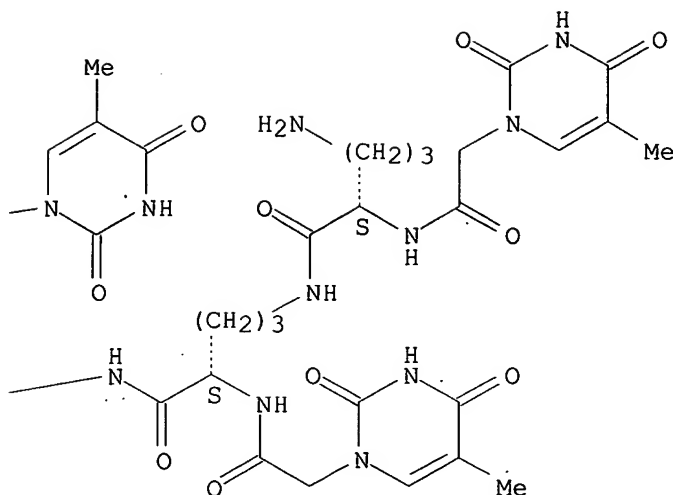
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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 136:200464

L2 ANSWER 4 OF 51 REGISTRY COPYRIGHT 2003 ACS  
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FS STEREOSEARCH  
MF C64 H89 N21 O22  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.





1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 136:200464

L2 ANSWER 5 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 400747-94-6 REGISTRY

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(9CI) (CA INDEX NAME)

FS STEREOSEARCH

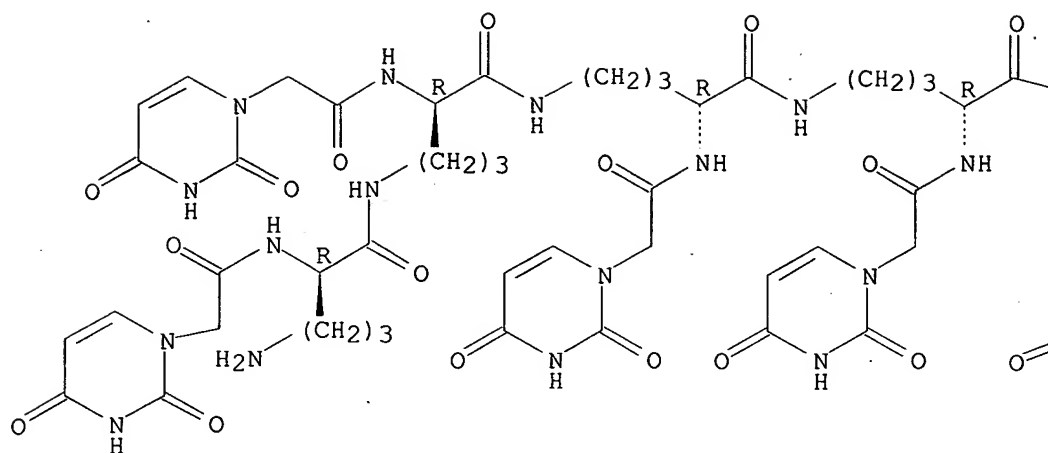
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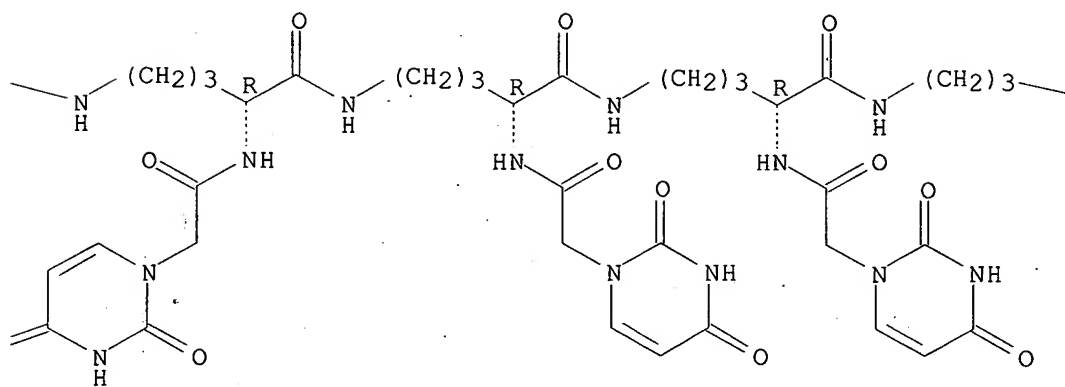
LC STN Files: CA, CAPLUS

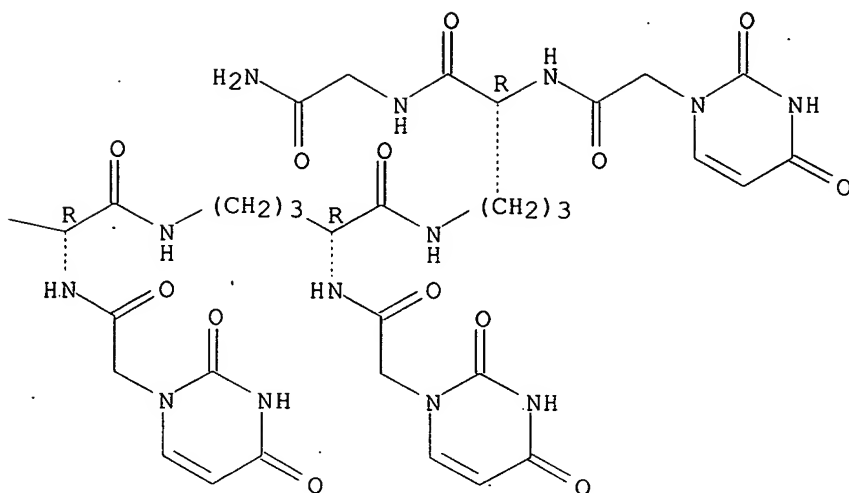
Absolute stereochemistry.

PAGE 1-A



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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 136:200464 .

L2 ANSWER 6 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 400747-88-8 REGISTRY

CN Glycinamide, N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-  
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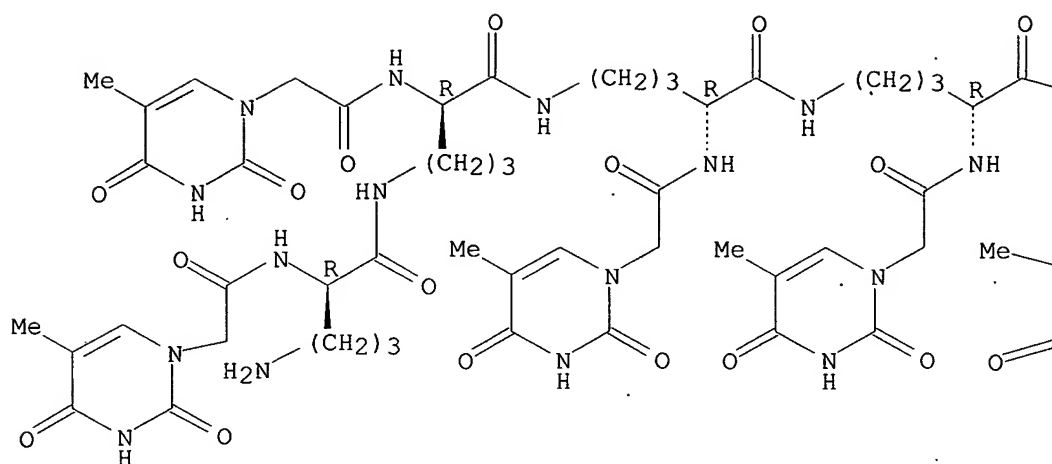
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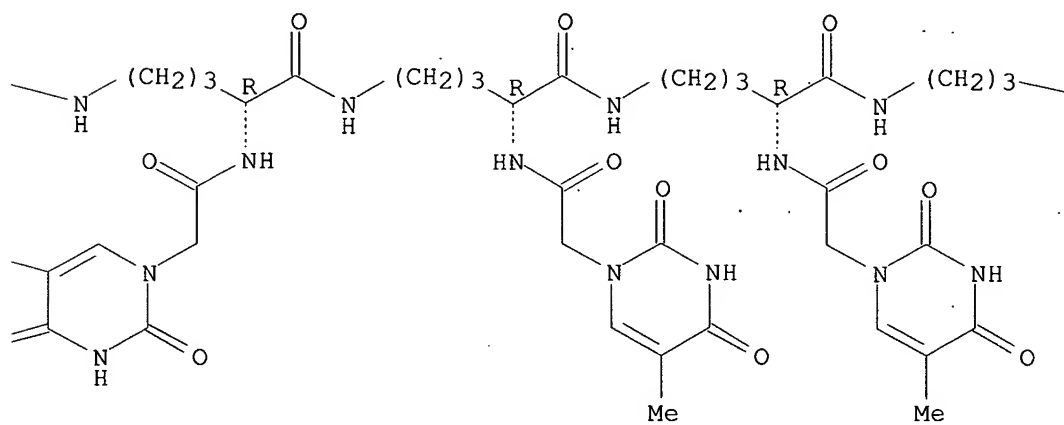
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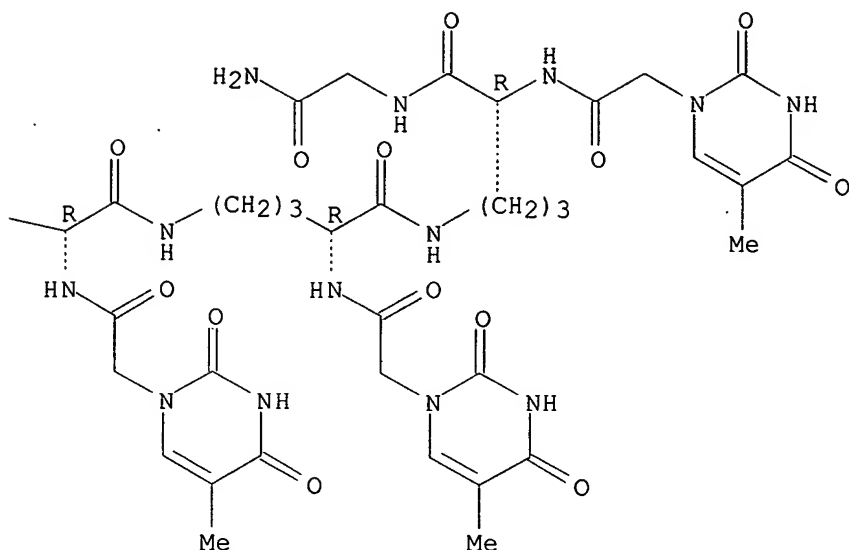
Absolute stereochemistry.

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1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 136:200464

L2 ANSWER 7 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 400747-81-1 REGISTRY

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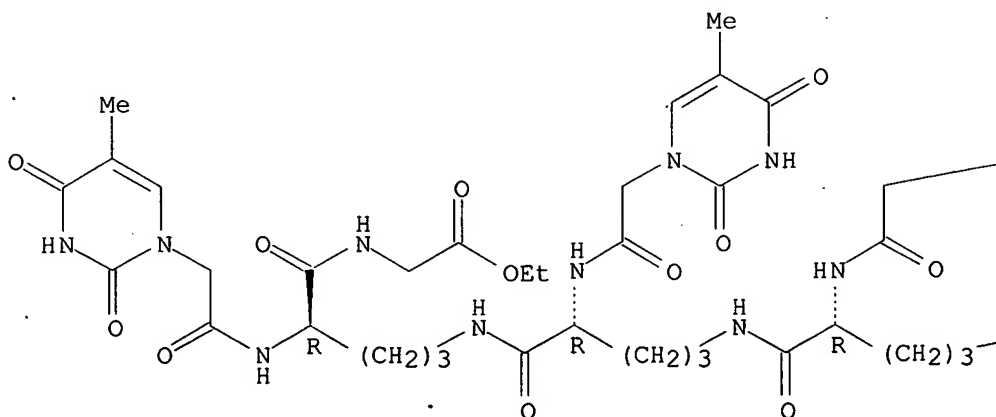
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MF C64 H89 N21 O22

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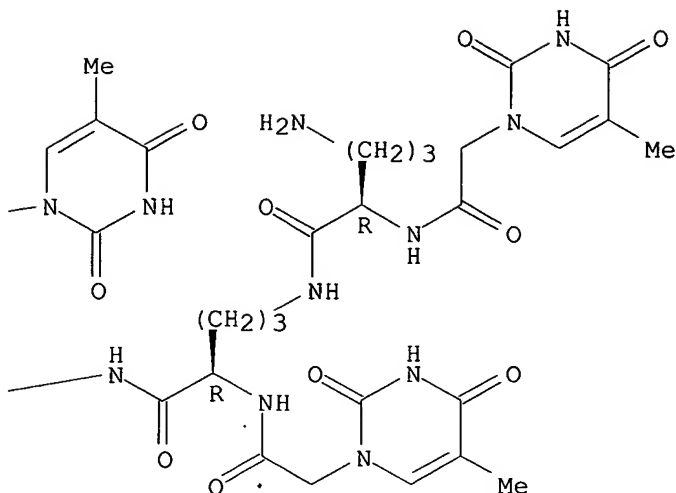
LC STN Files: CA, CAPLUS

Absolute stereochemistry.





PAGE 1-B



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L2 ANSWER 8 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 354821-33-3 REGISTRY

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FS PROTEIN SEQUENCE; STEREOSEARCH

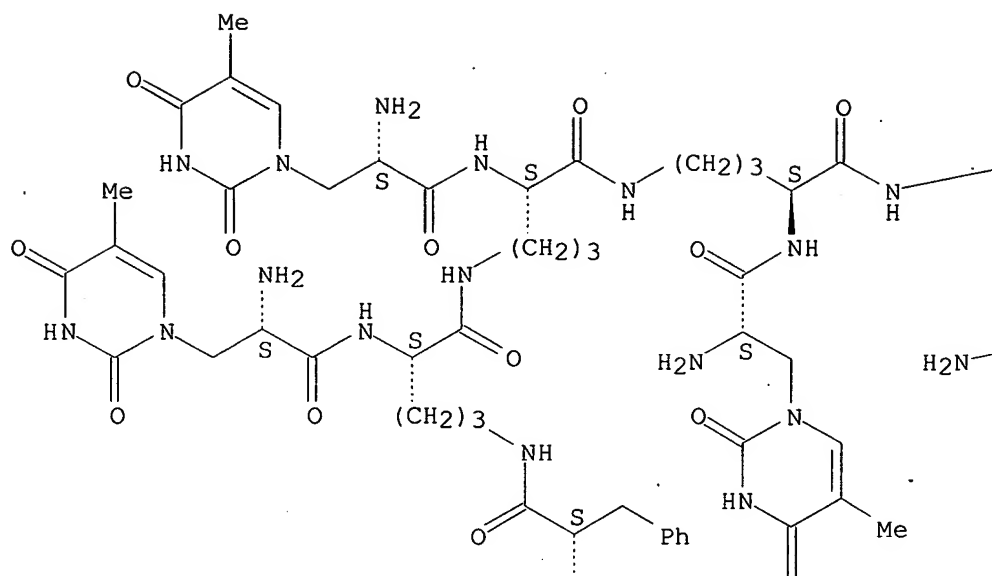
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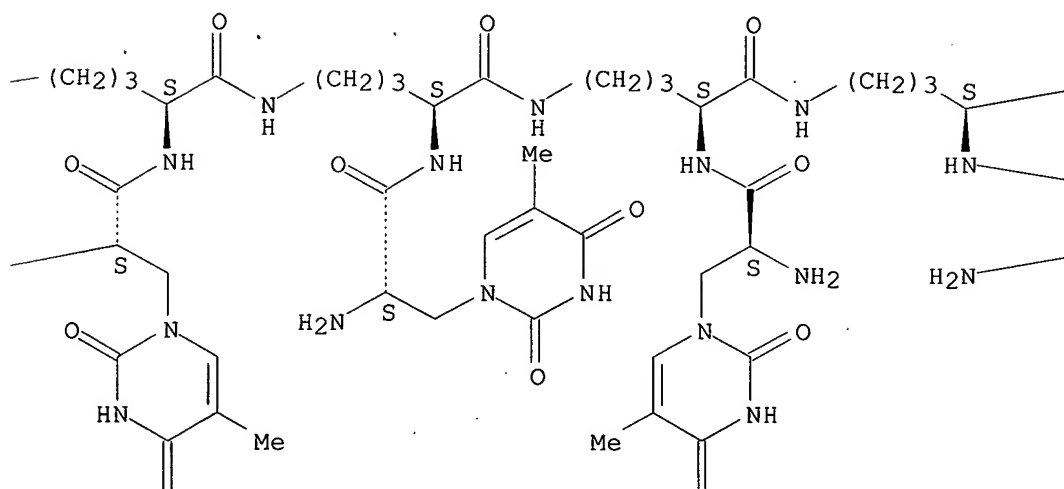
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Absolute stereochemistry.

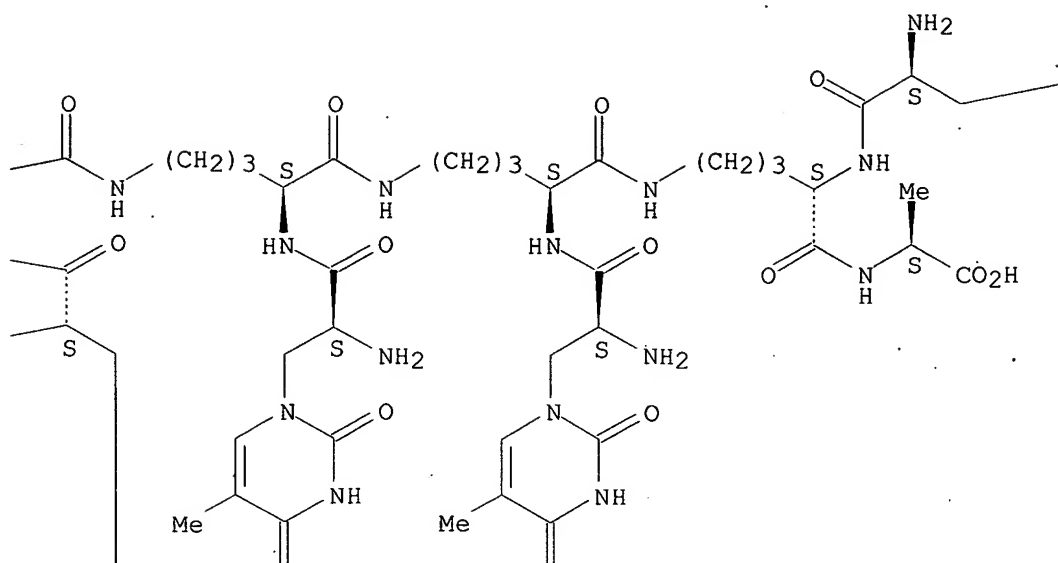
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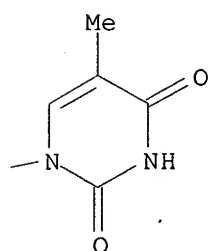
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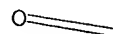
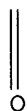
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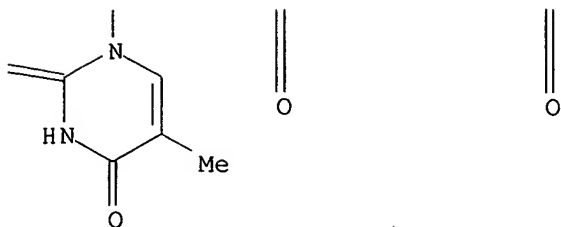
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PAGE 2-B



PAGE 2-C



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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 135:180940

L2 ANSWER 9 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 261167-33-3 REGISTRY

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OTHER NAMES:

CN 12: PN: WO0016807 FIGURE: 2 claimed sequence

FS PROTEIN SEQUENCE; STEREOSEARCH

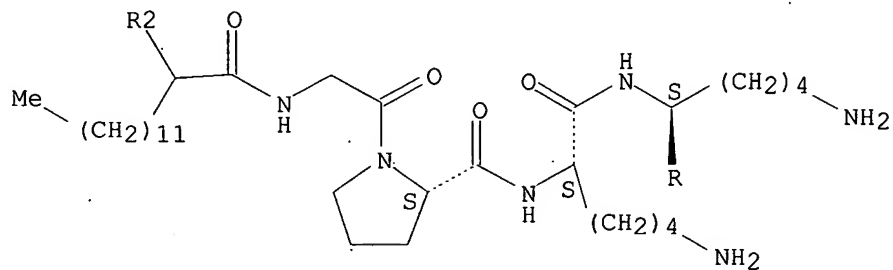
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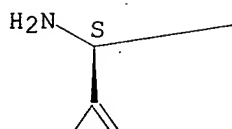
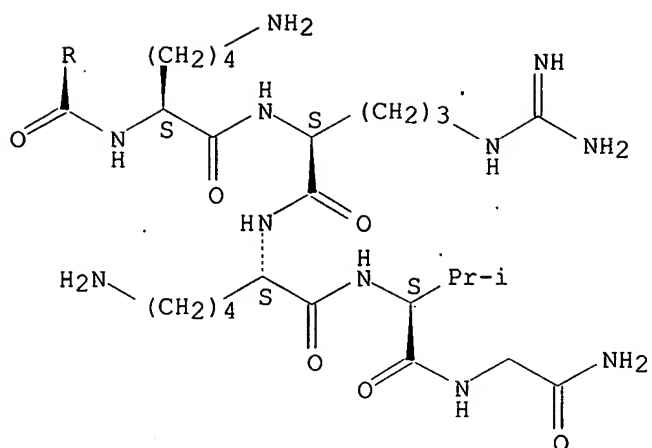
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

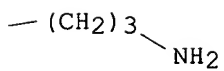
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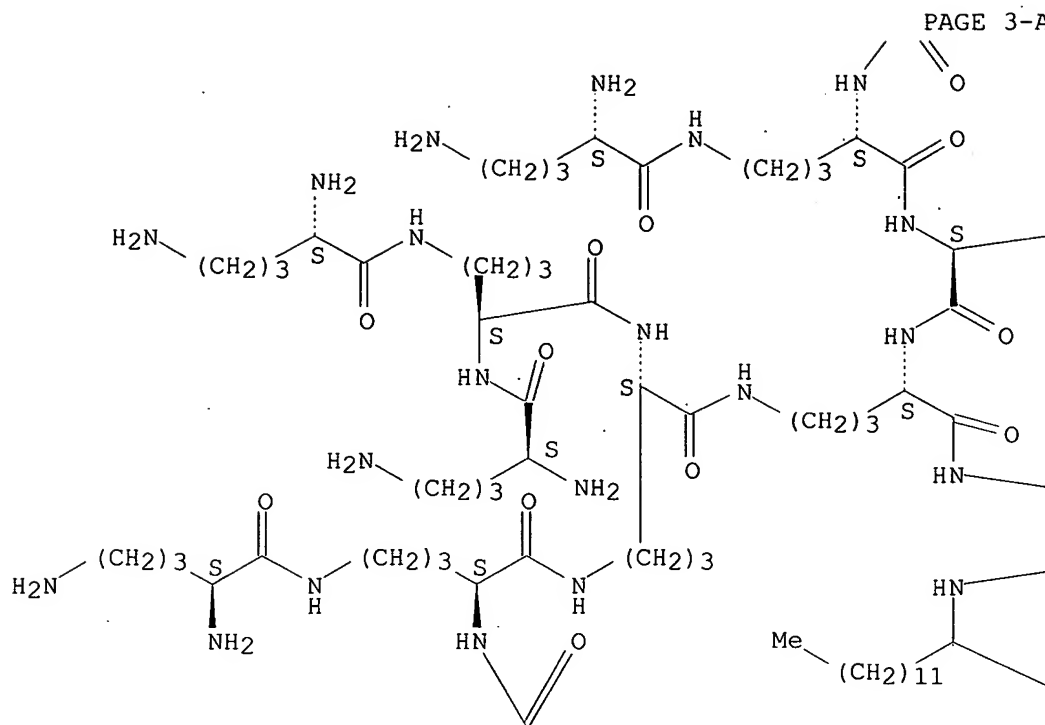
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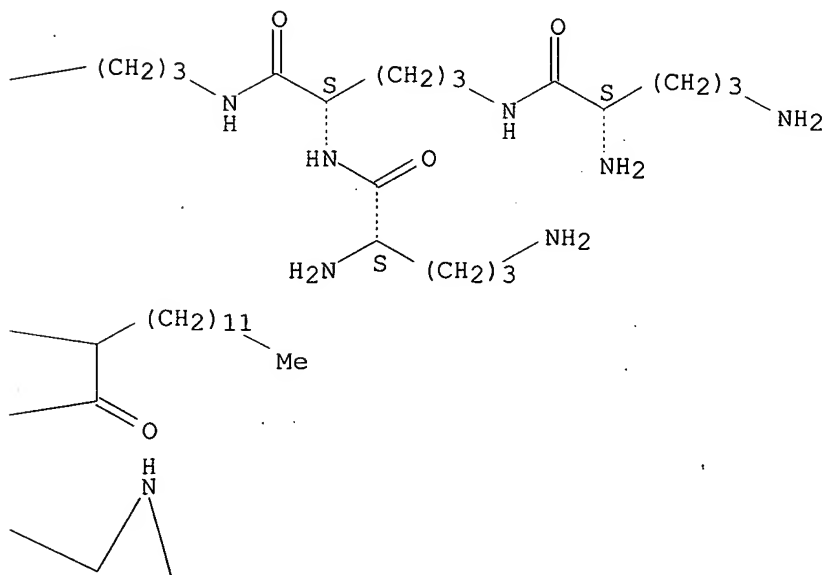
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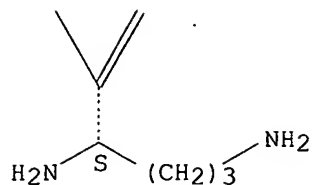
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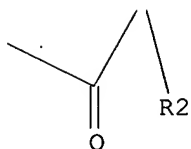
PAGE 3-B



PAGE 4-A



PAGE 4-B



2 REFERENCES IN FILE CA (1957 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:255952

REFERENCE 2: 132:227244

L2 ANSWER 10 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 261167-32-2 REGISTRY

CN Glycinamide, N2,N5-bis(N2,N5-di-L-ornithyl-L-ornithyl)-L-ornithyl-2-aminotetradecanoyl-2-aminotetradecanoyl-2-aminotetradecanoylglycyl-L-prolyl-L-lysyl-L-lysyl-L-lysyl-L-arginyl-L-lysyl-L-valyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

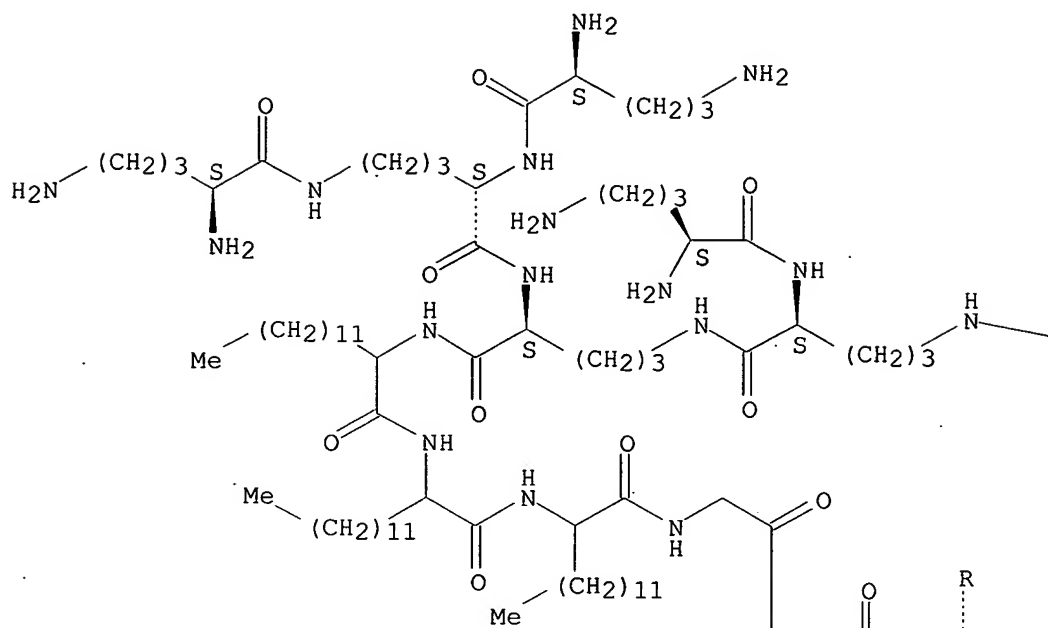
MF C121 H236 N34 O19

SR CA

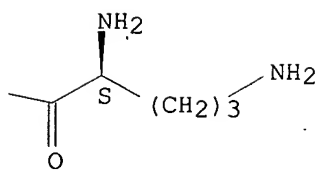
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

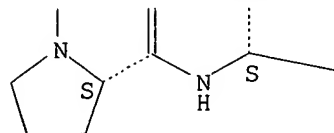
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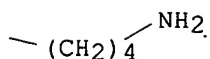


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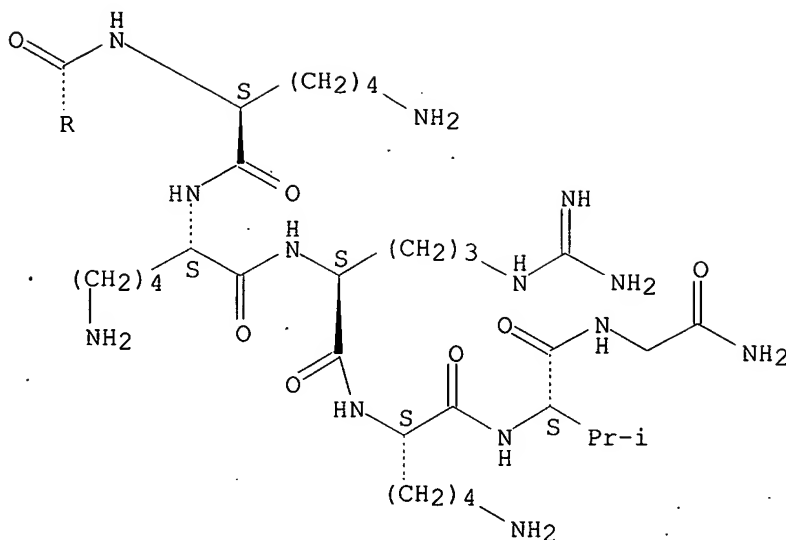




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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:227244

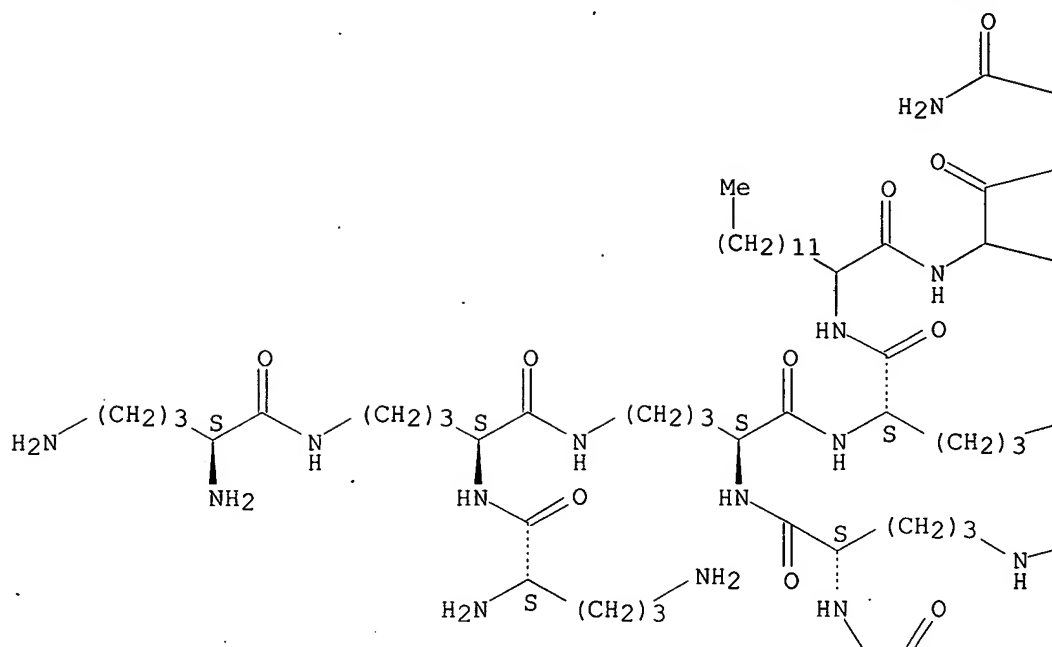
L2 ANSWER 11 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 261167-31-1 REGISTRY  
CN Tetradecanamide, N2,N5-bis[N2,N5-bis(N2,N5-di-L-ornithyl-L-ornithyl)-L-ornithyl]-L-ornithyl-2-aminotetradecanoyl-2-aminotetradecanoyl-2-amino-(9CI) (CA INDEX NAME)

OTHER NAMES:

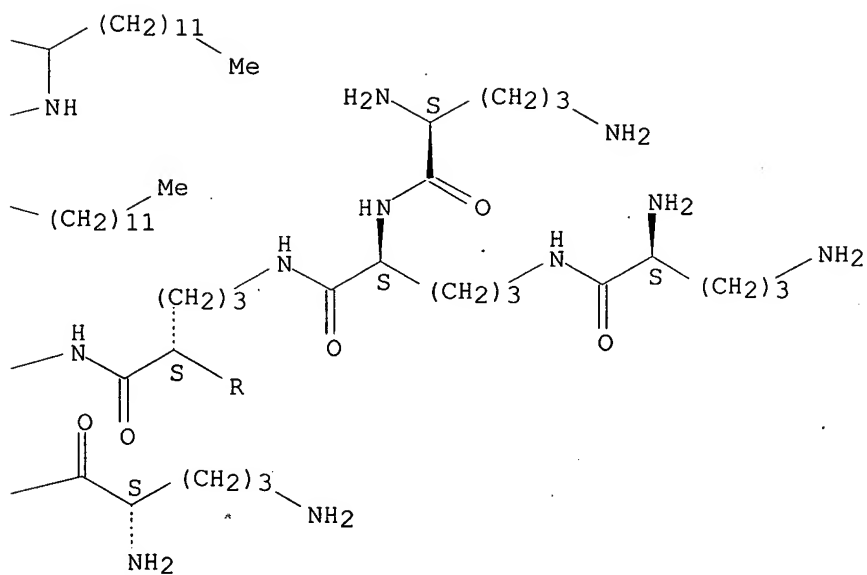
CN 10: PN: WO0016807 FIGURE: 2 claimed sequence  
FS PROTEIN SEQUENCE; STEREOSEARCH  
MF C117 H234 N34 O18  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

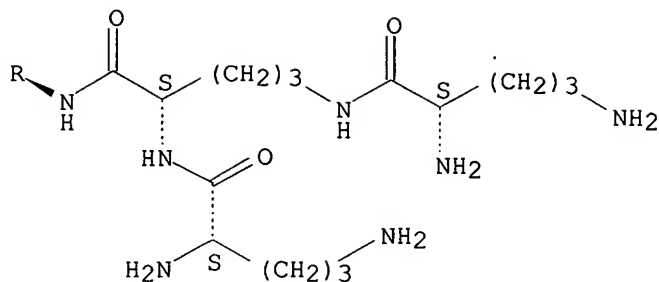
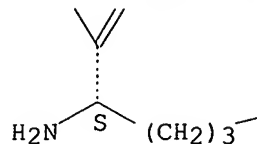
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NH<sub>2</sub>

2 REFERENCES IN FILE CA (1957 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:255952

REFERENCE 2: 132:227244

L2 ANSWER 12 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 261167-30-0 REGISTRY

CN Tetradecanamide, N2,N5-bis(N2,N5-di-L-ornithyl-L-ornithyl)-L-ornithyl-2-aminotetradecanoyl-2-aminotetradecanoyl-2-amino- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 9: PN: WO0016807 FIGURE: 2 claimed sequence

FS PROTEIN SEQUENCE; STEREOSEARCH

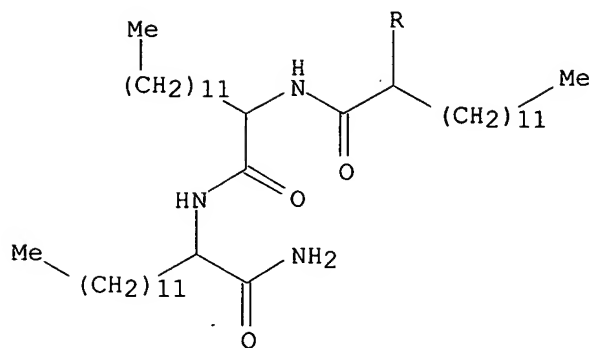
MF C77 H154 N18 O10

SR CA

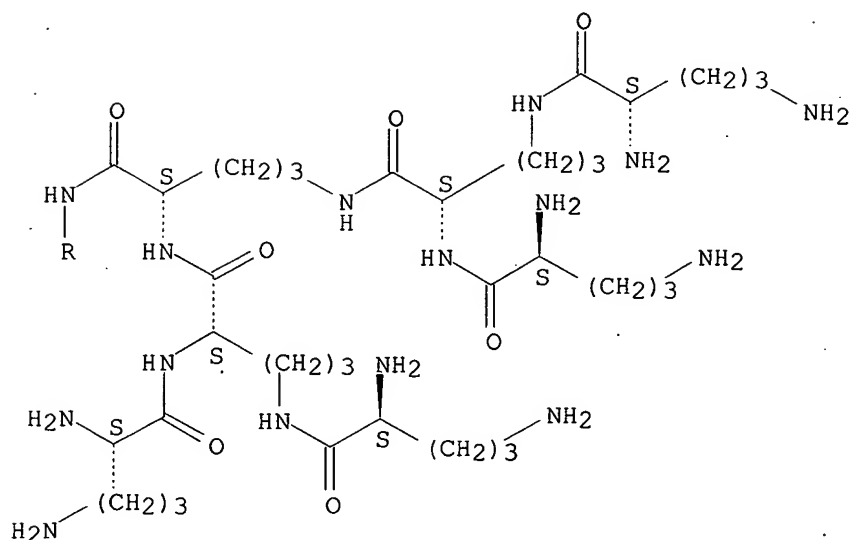
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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2 REFERENCES IN FILE CA (1957 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 132:255952

REFERENCE 2: 132:227244

L2 ANSWER 13 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 244785-60-2 REGISTRY

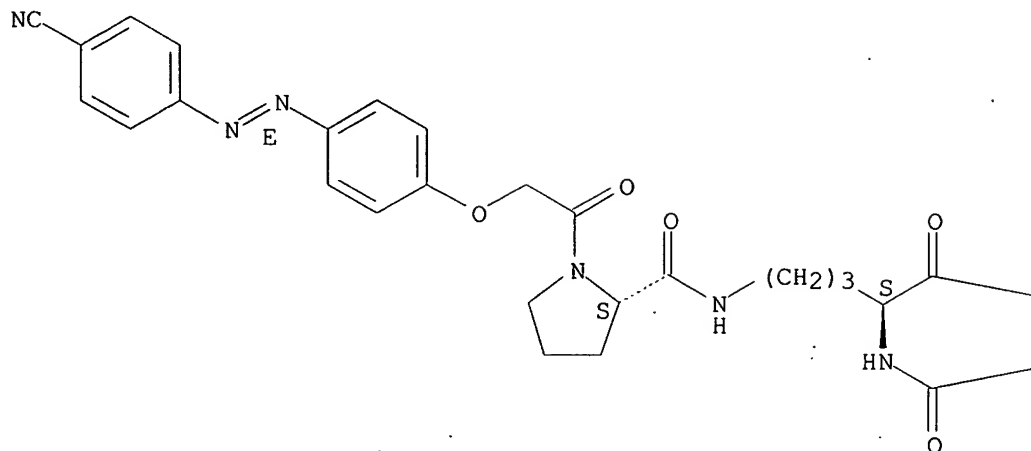
CN L-Ornithinamide, N2-[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-  
 [[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[4-[(1E)-(4-  
 cyanophenyl)azo]phenoxy]acetyl]-N5-[1-[[4-[(1E)-(4-  
 cyanophenyl)azo]phenoxy]acetyl]-L-prolyl]-L-ornithyl]-L-  
 ornithyl-N5-[N2-[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[4-  
 [(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[4-[(1E)-(4-  
 cyanophenyl)azo]phenoxy]acetyl]-N5-[1-[[4-[(1E)-(4-  
 cyanophenyl)azo]phenoxy]acetyl]-L-prolyl]-L-ornithyl]-L-  
 ornithylglycyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

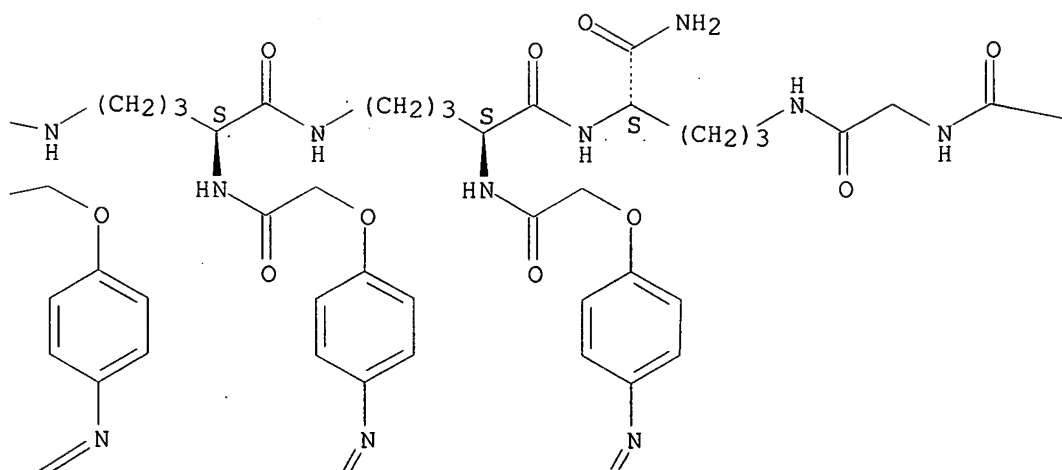
MF C167 H162 N42 O26  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as shown.

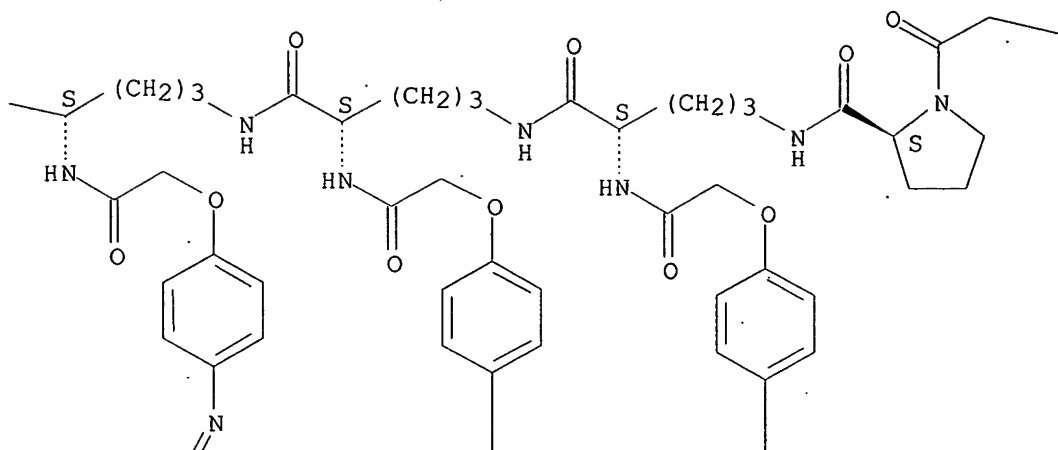
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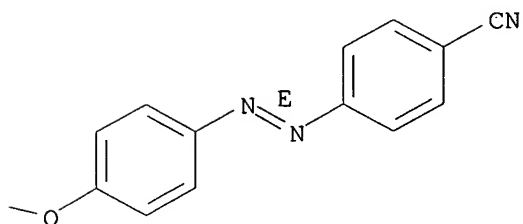
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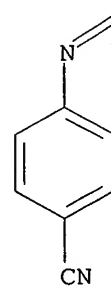
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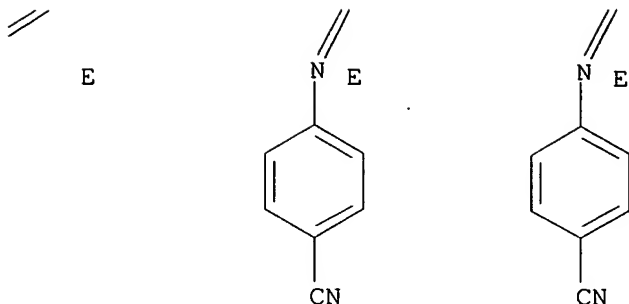
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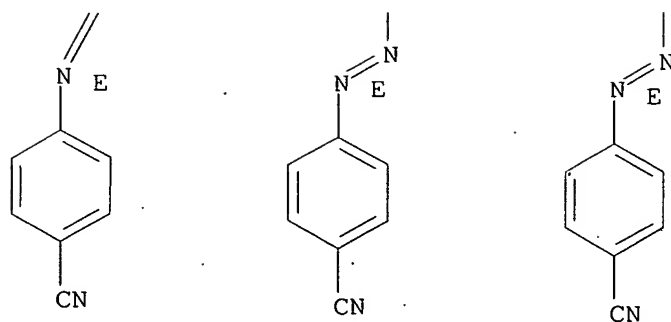
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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

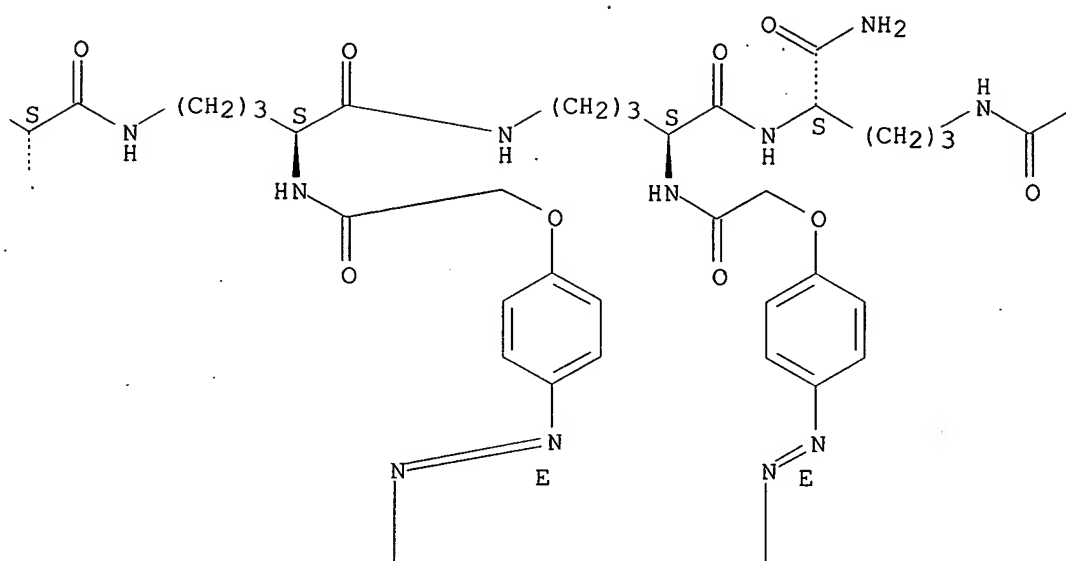
REFERENCE 1: 131:257847

L2 ANSWER 14 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 244785-58-8 REGISTRY  
CN L-Ornithinamide, N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-L-alanyl]-L-ornithyl]-L-ornithyl]-L-ornithyl-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-L-alanyl]-L-ornithyl]-L-ornithyl]-L-ornithylglycyl]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C163 H158 N42 O26  
SR CA  
LC STN Files: CA, CAPLUS

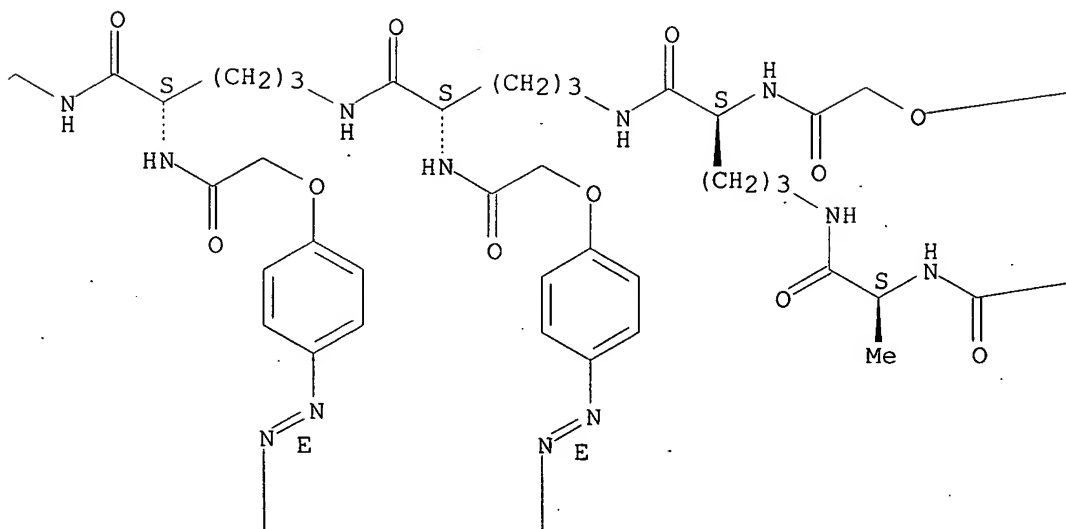
Absolute stereochemistry.  
Double bond geometry as shown.

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

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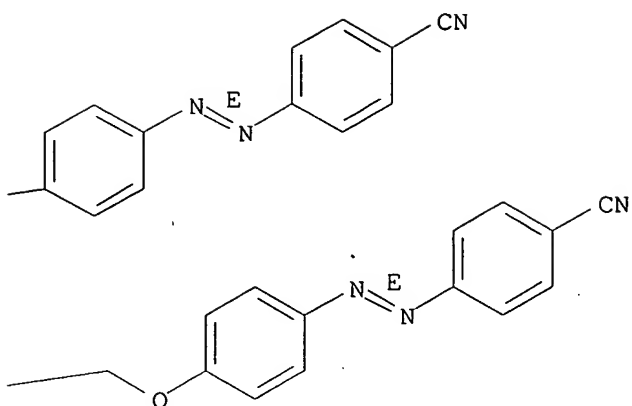


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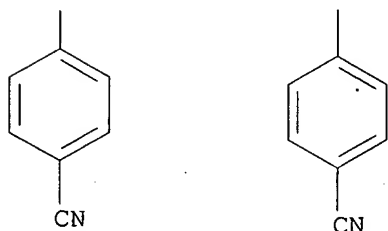
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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 131:257847

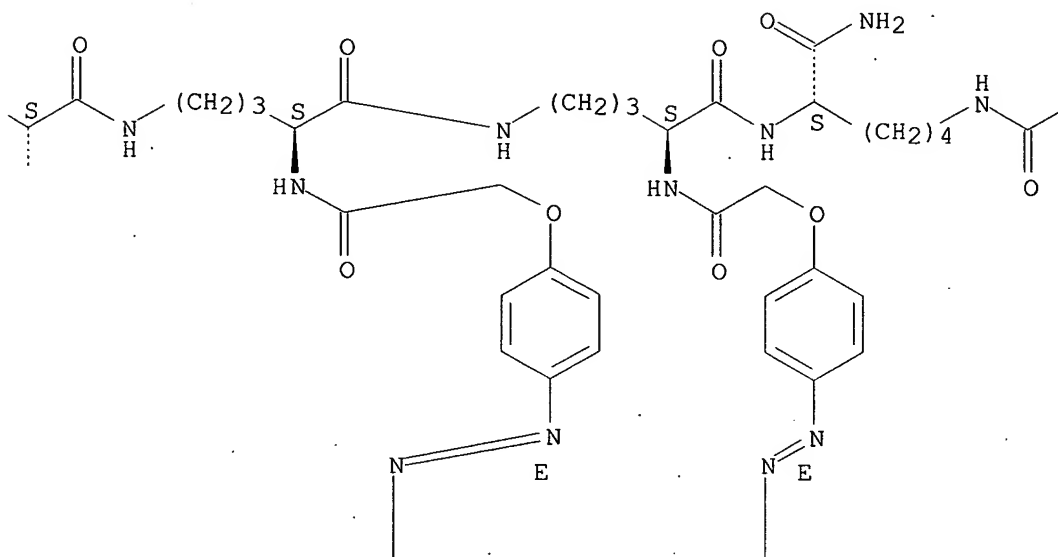
L2 ANSWER 15 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 244785-46-4 REGISTRY  
CN L-Lysinamide, N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-N6-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-L-ornithylglycyl]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH

MF C162 H156 N42 O26  
 SR CA  
 LC STN Files: CA, CAPLUS

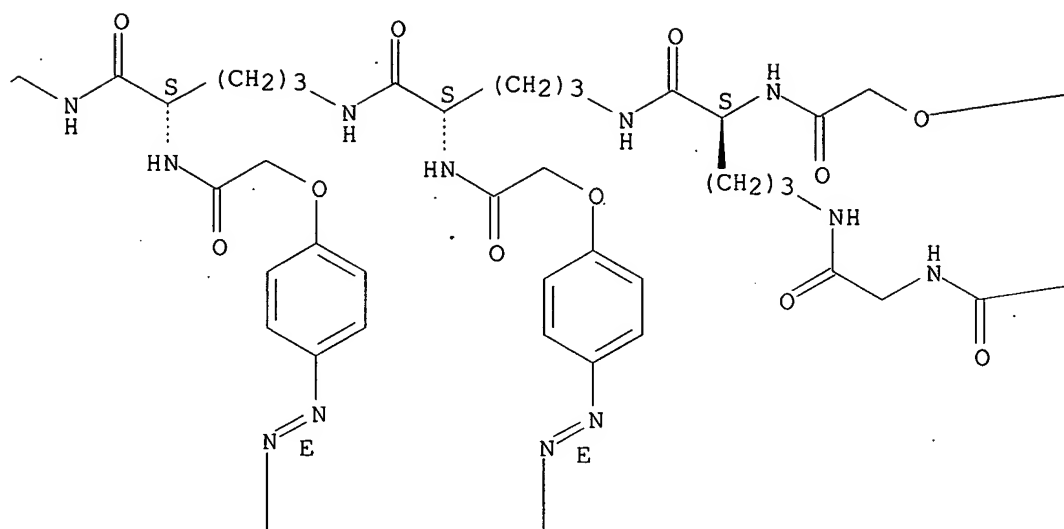
Absolute stereochemistry.  
 Double bond geometry as shown.

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

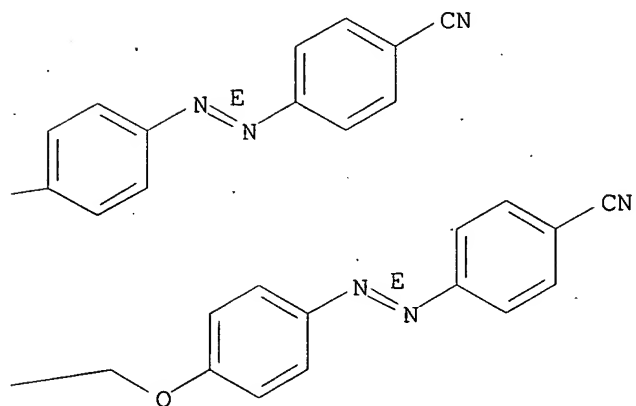
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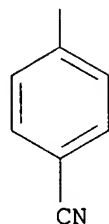
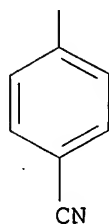
PAGE 1-C

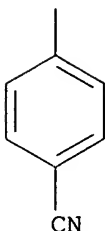
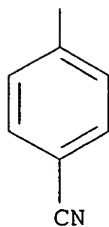


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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

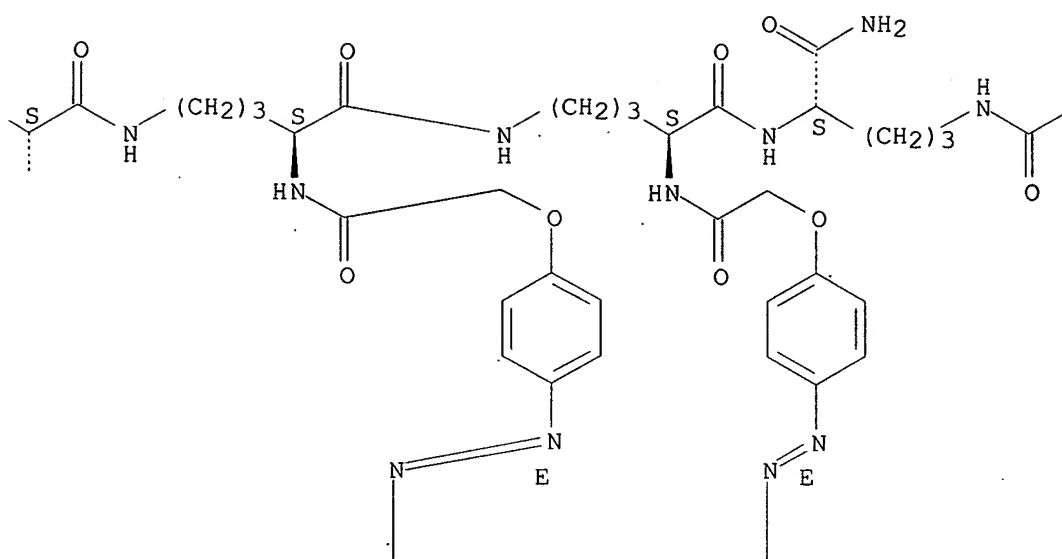
REFERENCE 1: 131:257847

L2 ANSWER 16 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 244785-45-3 REGISTRY  
CN L-Ornithinamide, N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-L-ornithyl-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-L-ornithylglycyl]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C161 H154 N42 O26  
SR CA  
LC STN Files: CA, CAPLUS

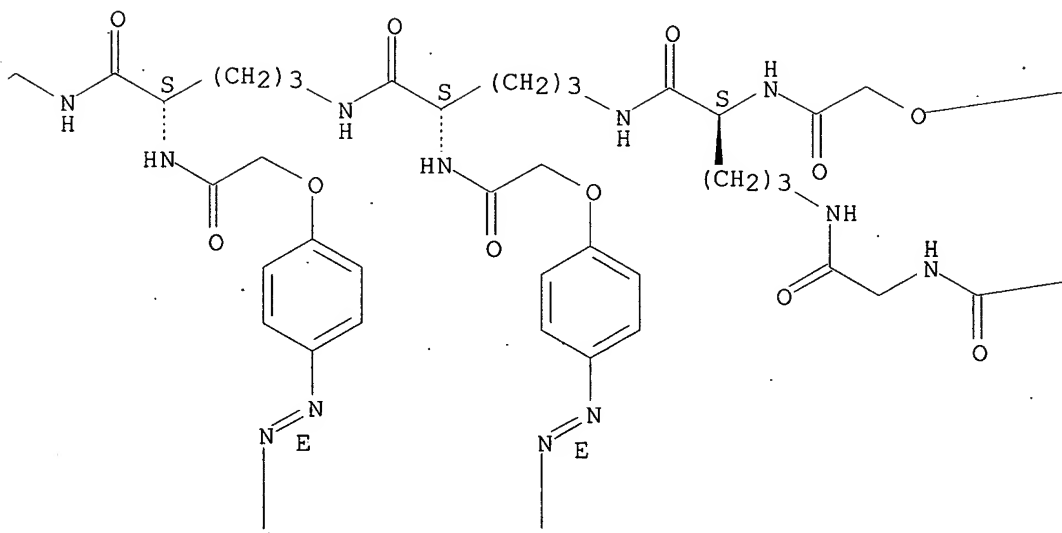
Absolute stereochemistry.  
Double bond geometry as shown.

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

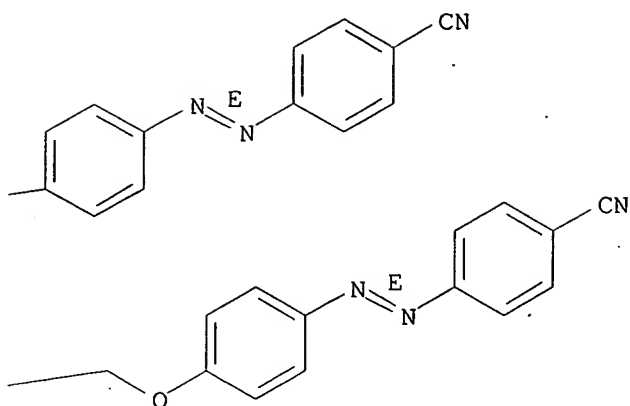
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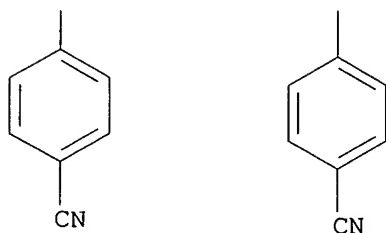
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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

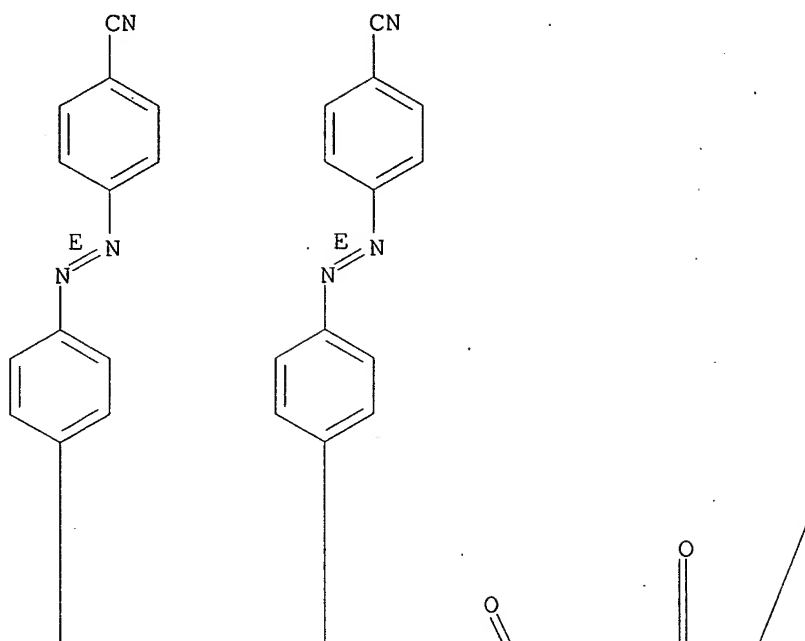
REFERENCE 1: 131:257847

L2 ANSWER 17 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 244785-44-2 REGISTRY  
CN Butahamide, N2-[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-N4-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-L-ornithylglycyl]-2,4-diamino-, (2S)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH

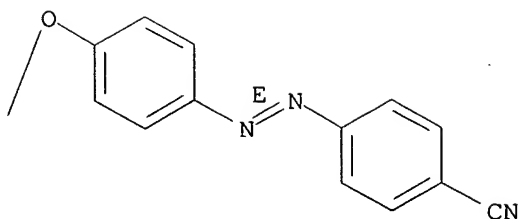
MF C160 H152 N42 O26  
 SR CA  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
 Double bond geometry as shown.

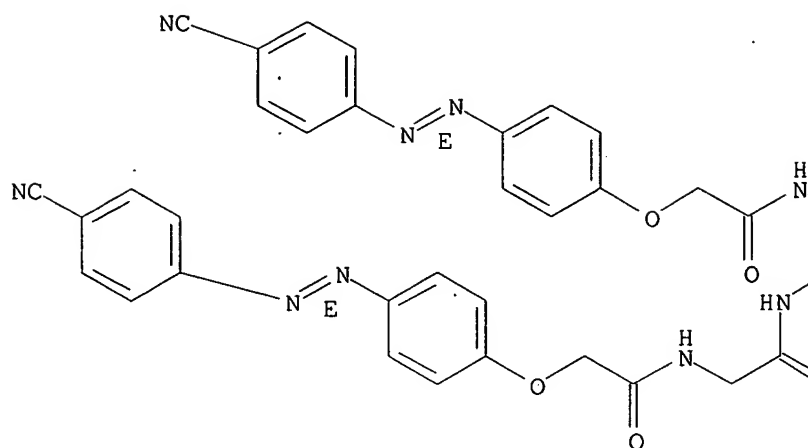
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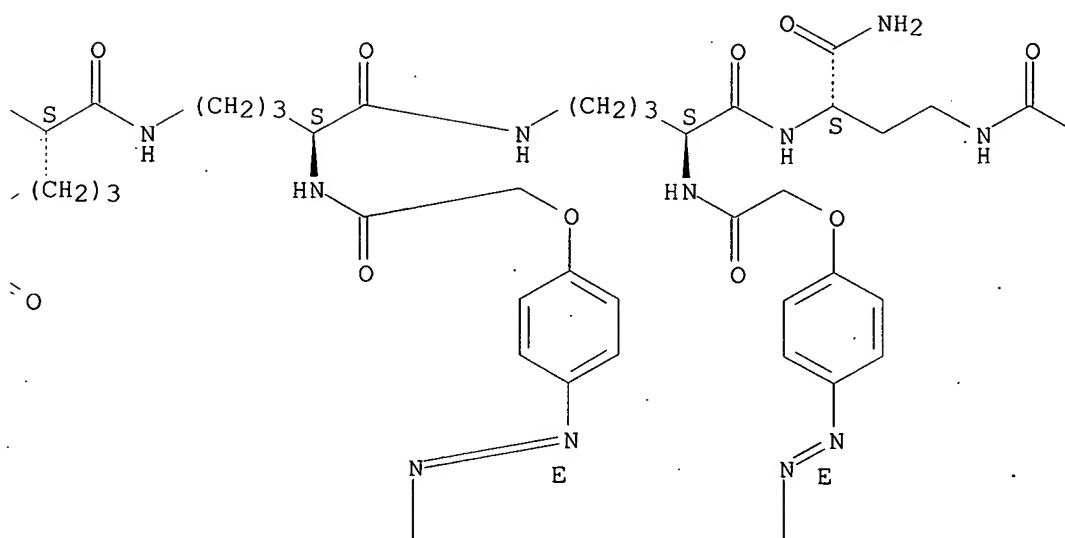
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cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithylglycyl]amino]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

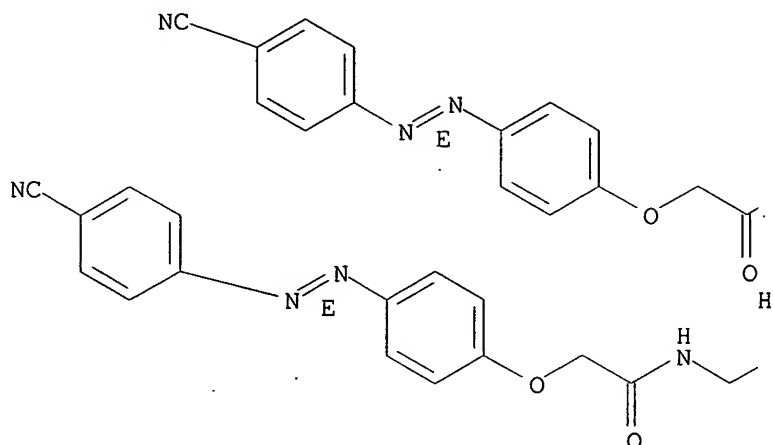
MF C159 H150 N42 O26

SR CA

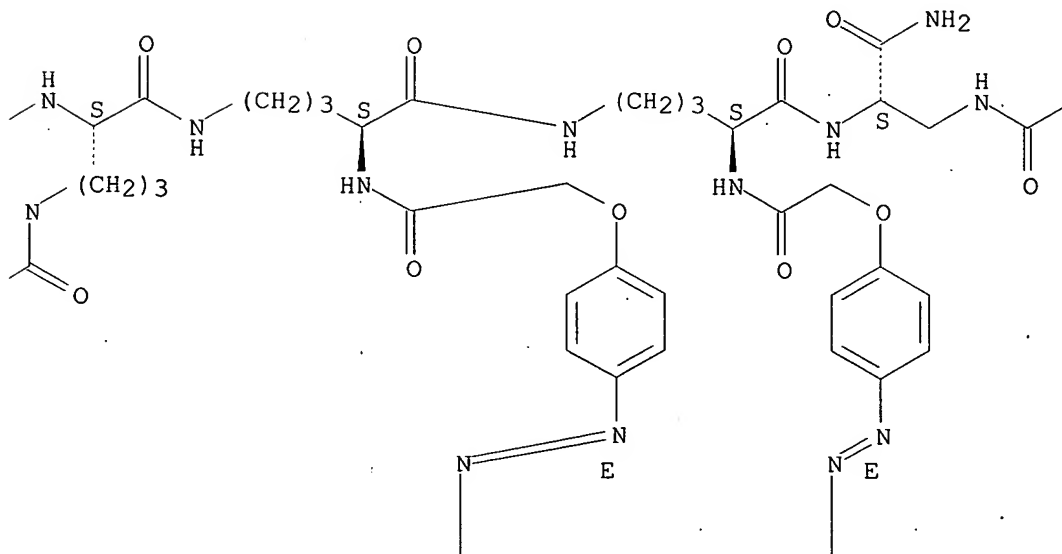
LC STN Files: CA, CAPLUS

Absolute stereochemistry.  
Double bond geometry as shown.

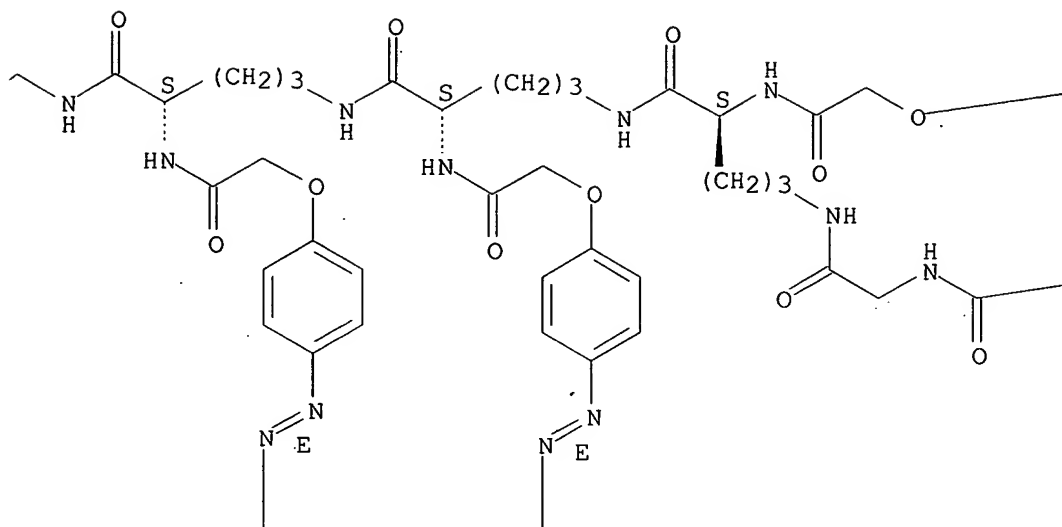
PAGE 1-A



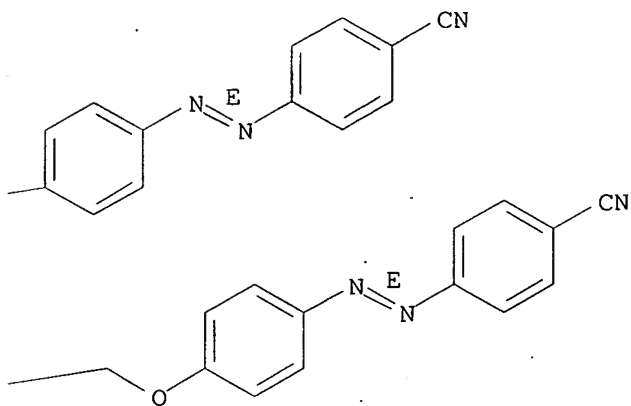
PAGE 1-B



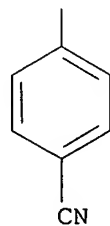
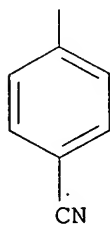
PAGE 1-C



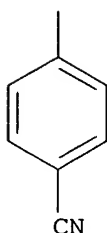
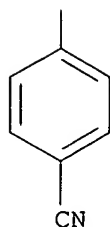
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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

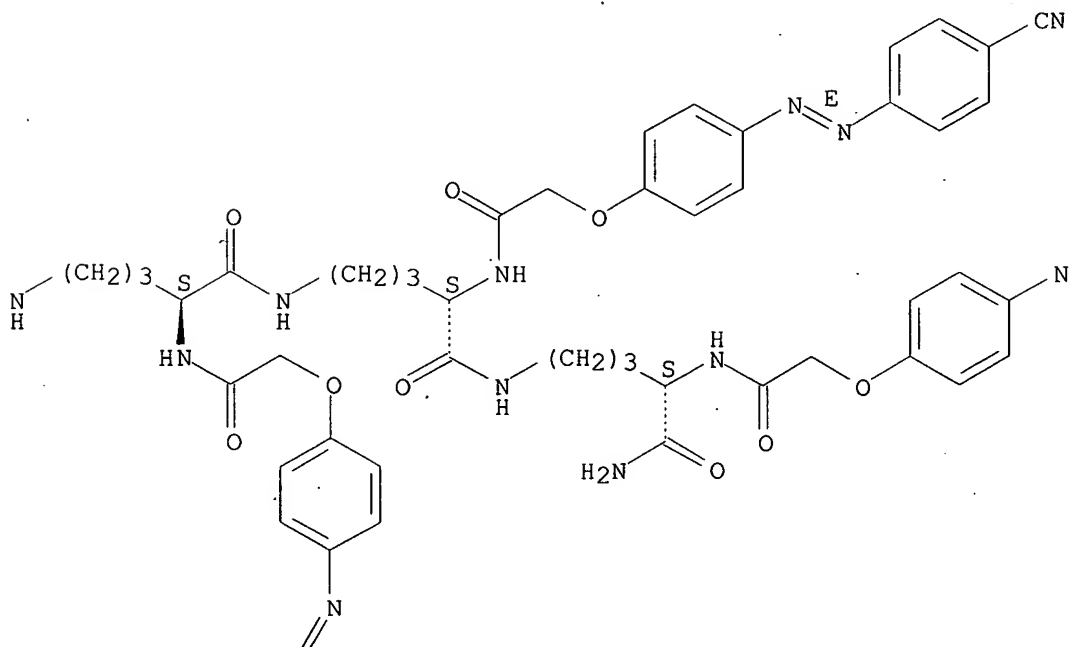
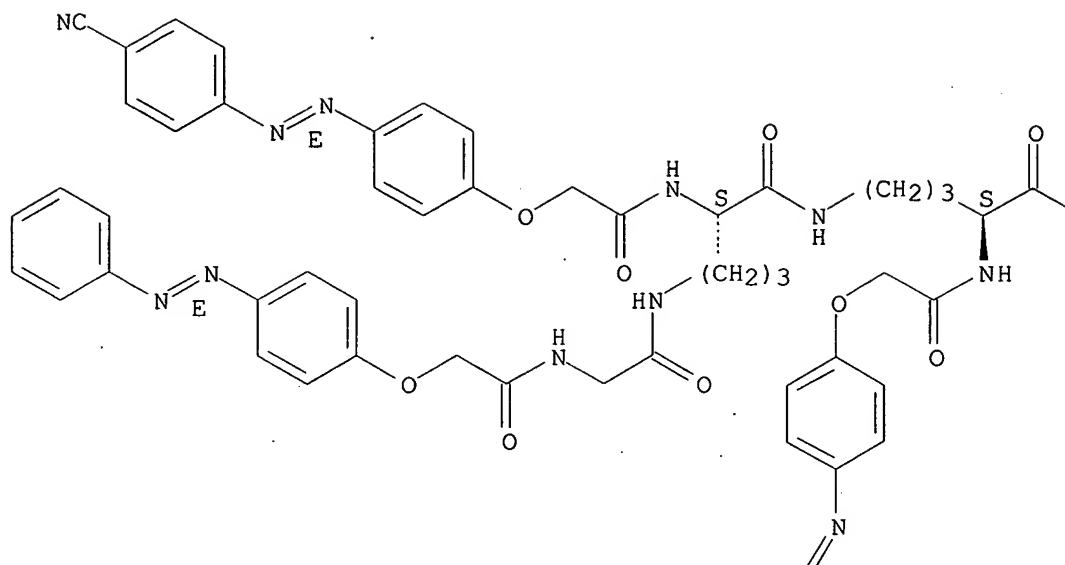
REFERENCE 1: 131:257847

L2 ANSWER 19 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 244785-37-3 REGISTRY  
CN L-Ornithinamide, N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C117 H110 N30 O18  
SR CA  
LC STN Files: CA, CAPLUS

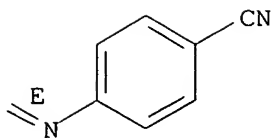
Absolute stereochemistry.  
Double bond geometry as shown.

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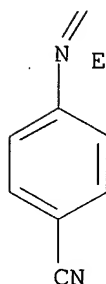
NC



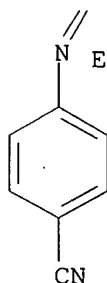
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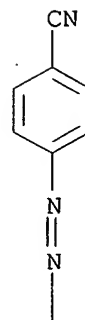


1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

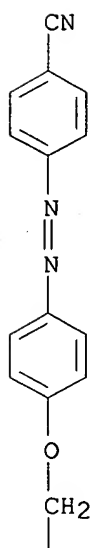
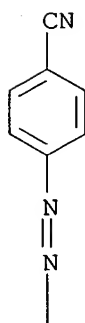
REFERENCE 1: 131:257847

L2 ANSWER 20 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 244061-02-7 REGISTRY  
CN 3,6,12,18,24,30-Hexaazapentatriacontan-35-amide, 1-[4-[(4-cyanophenyl)azo]phenoxy]-10,16,22,28,34-pentakis[[[4-[(4-cyanophenyl)azo]phenoxy]acetyl]amino]-2,5,11,17,23,29-hexaoxo- (9CI) (CA INDEX NAME)  
FS 3D CONCORD  
MF C117 H110 N30 O18  
SR CA  
LC STN Files: CA, CAPLUS

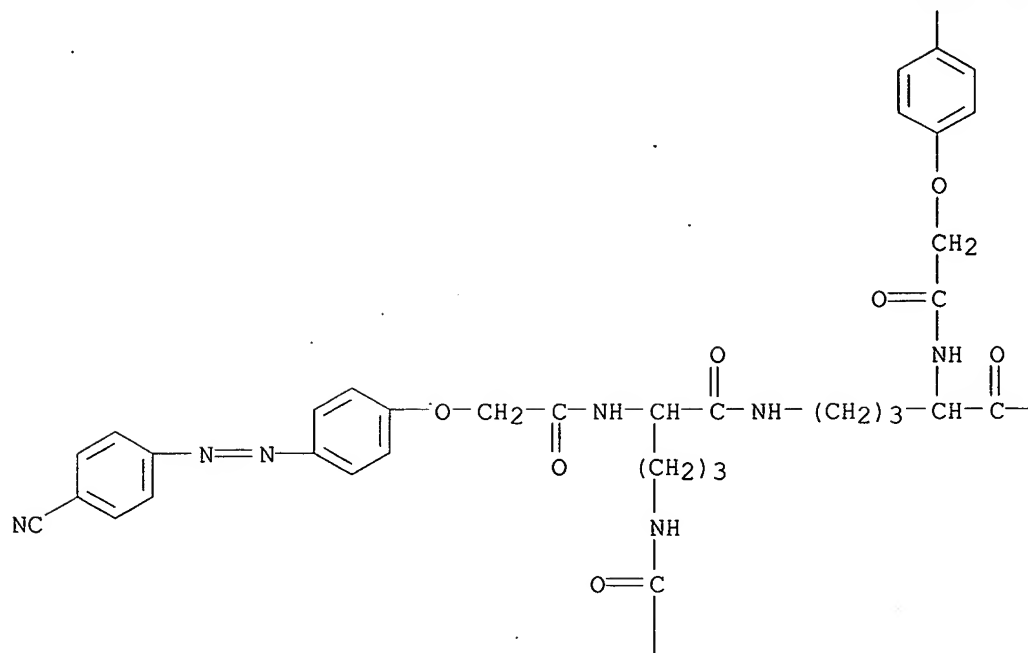
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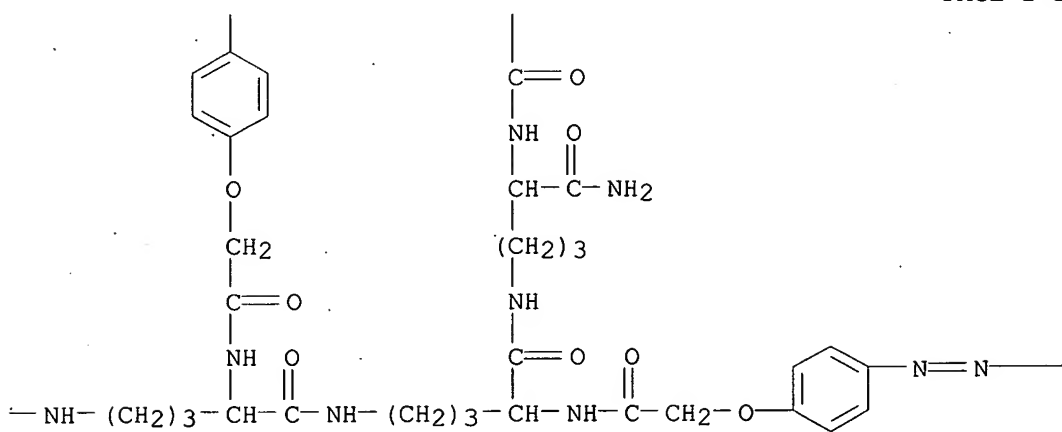
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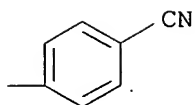


PAGE 2-B

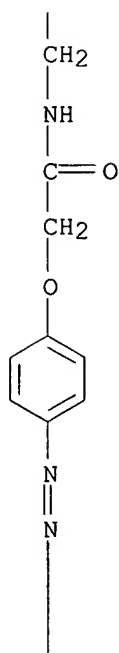




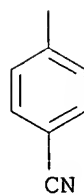
PAGE 2-C



PAGE 3-A



PAGE 4-A



1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 131:235657

L2 ANSWER 21 OF 51 REGISTRY COPYRIGHT 2003 ACS  
 RN 207803-05-2 REGISTRY  
 CN RNA, (A-A-A-A-A-A-A-A-A-A), complex with N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-acetyl-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-L-lysynamide (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Lysynamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-acetyl-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-, complex with RNA (A-A-A-A-A-A-A-A-A-A) (1:1) (9CI)

FS NUCLEIC ACID SEQUENCE; STEREOSEARCH

MF C128 H177 N43 O42 . Unspecified

SR CA

LC STN Files: CA, CAPLUS

\*\*RELATED SEQUENCES AVAILABLE WITH SEQLINK\*\*

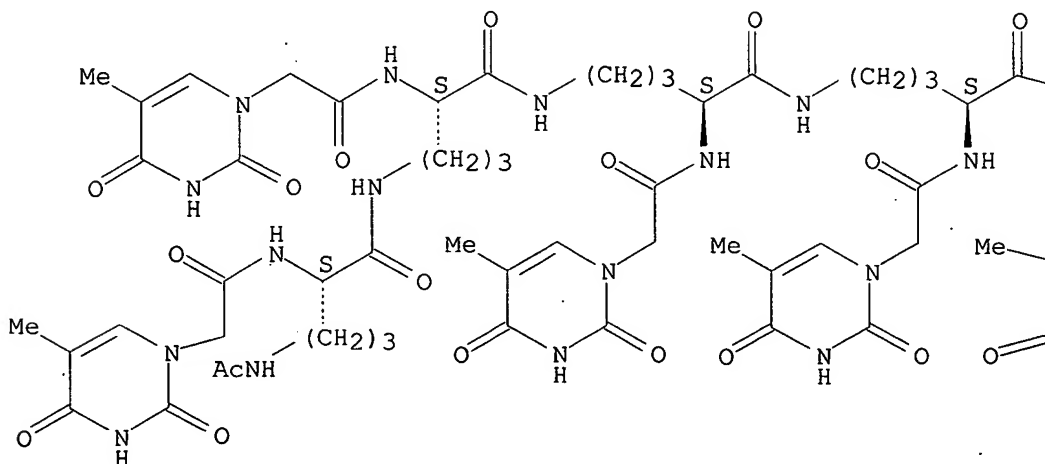
CM 1

CRN 207597-64-6

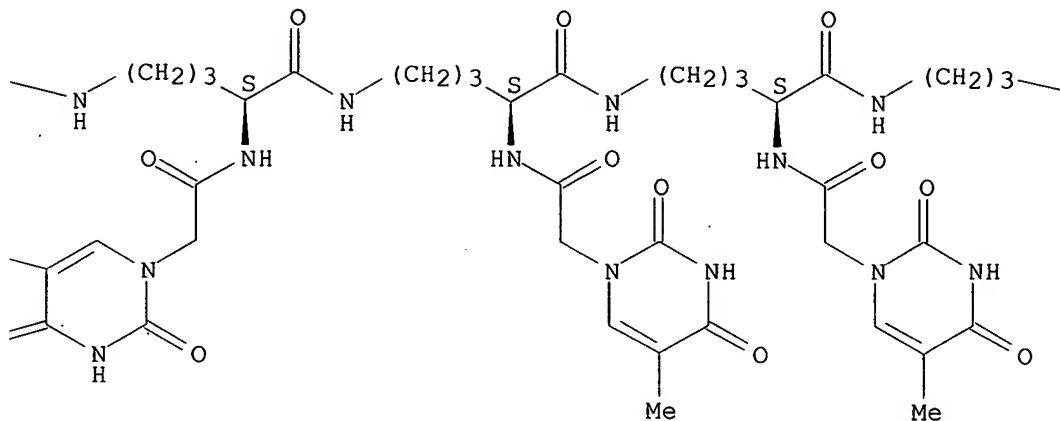
CMF C128 H177 N43 O42

Absolute stereochemistry.

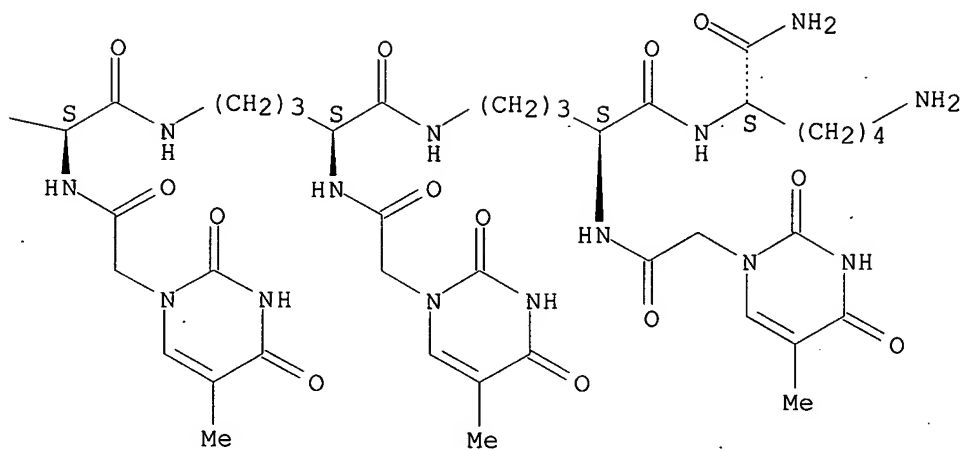
PAGE 1-A



PAGE 1-B



PAGE 1-C



CM 2

CRN 52206-42-5  
CMF Unspecified  
CCI MAN

\*\*RELATED SEQUENCES AVAILABLE WITH SEQLINK\*\*

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

\*\*\* USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE \*\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 129:16363

L2 ANSWER 22 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 207803-03-0 REGISTRY

CN RNA, (A-A-A-A-A-A-A-A-A-A), complex with N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-

OTHER CA INDEX NAMES:

FS NUCLEIC ACID SEQUENCE; STEREOSEARCH

MF C128 H177 N43 O42 . Unspecified

SR CA

LC STN Files: CA, CAPLUS

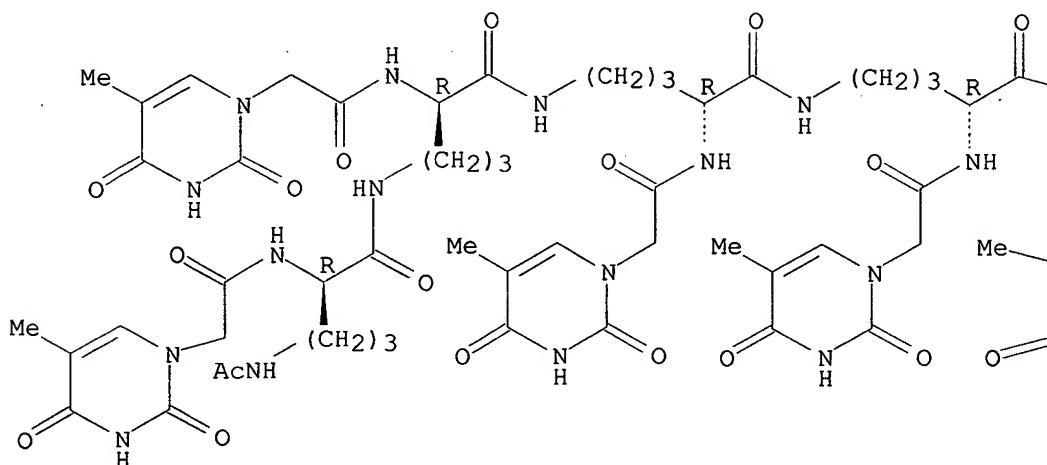
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CM 1

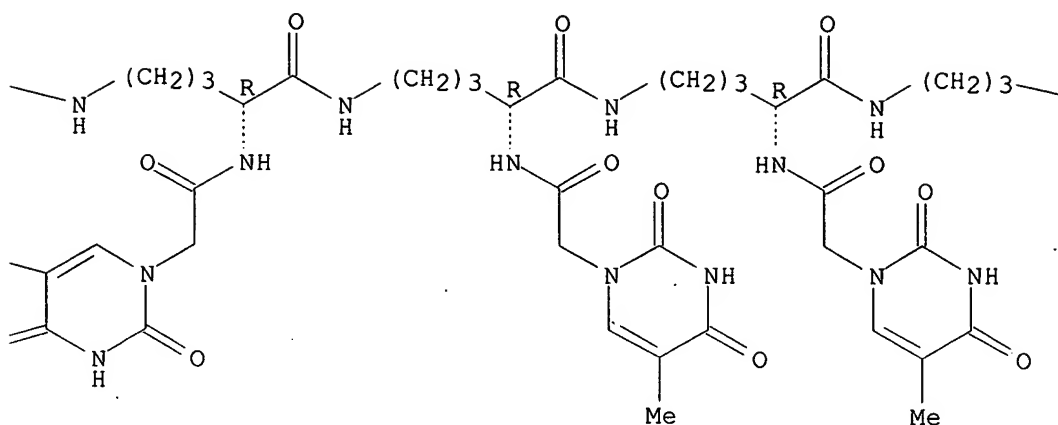
CRN 207597-65-7

CMF C128 H177 N43 042

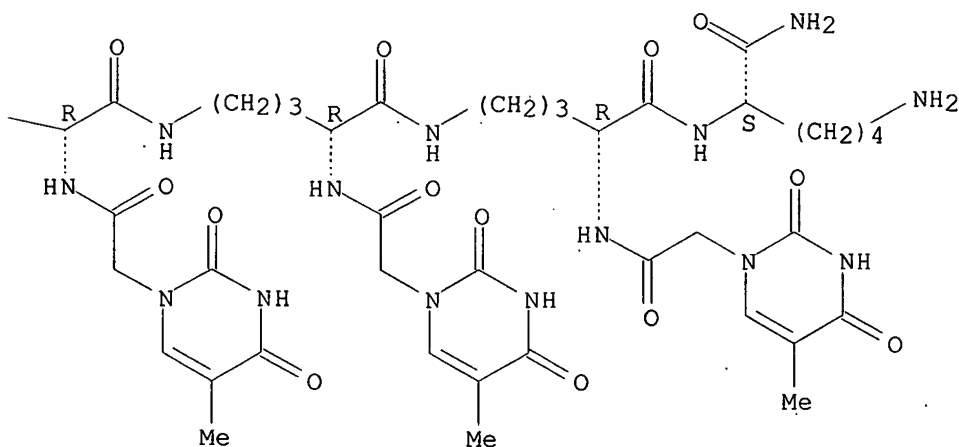
Absolute stereochemistry.



PAGE 1-B



PAGE 1-C



CM 2

CRN 52206-42-5  
CMF Unspecified  
CCI MAN

\*\*RELATED SEQUENCES AVAILABLE WITH SEQLINK\*\*

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

\*\*\* USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE \*\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 129:16363

L2 ANSWER 23 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 207597-66-8 REGISTRY

CN L-Lysinamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-acetyl-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-

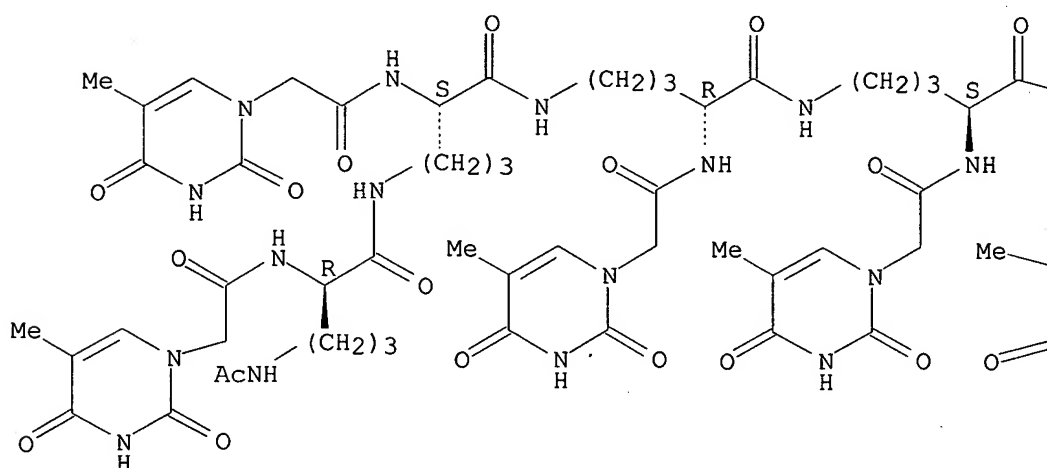
dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]- (9CI)

(CA INDEX NAME)

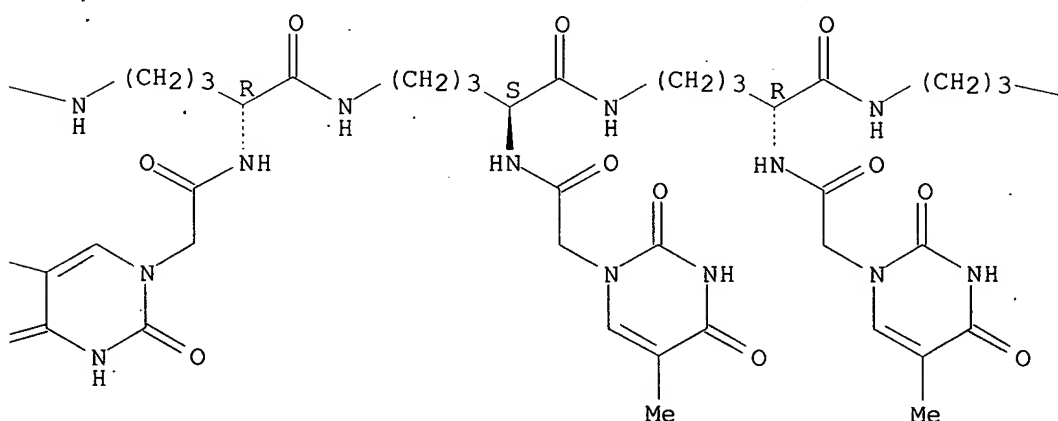
FS STEREOSEARCH  
MF C128 H177 N43 O42  
SR CA  
LC STN Files: CA, CAPLUS

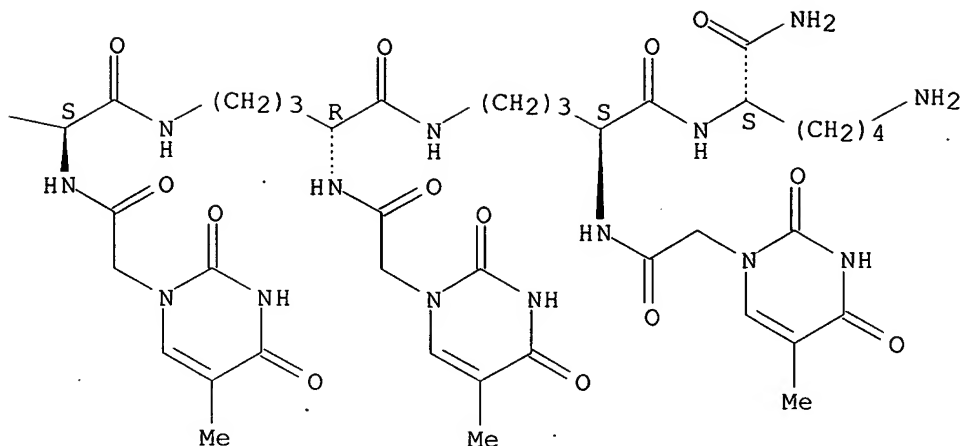
Absolute stereochemistry.

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PAGE 1-B





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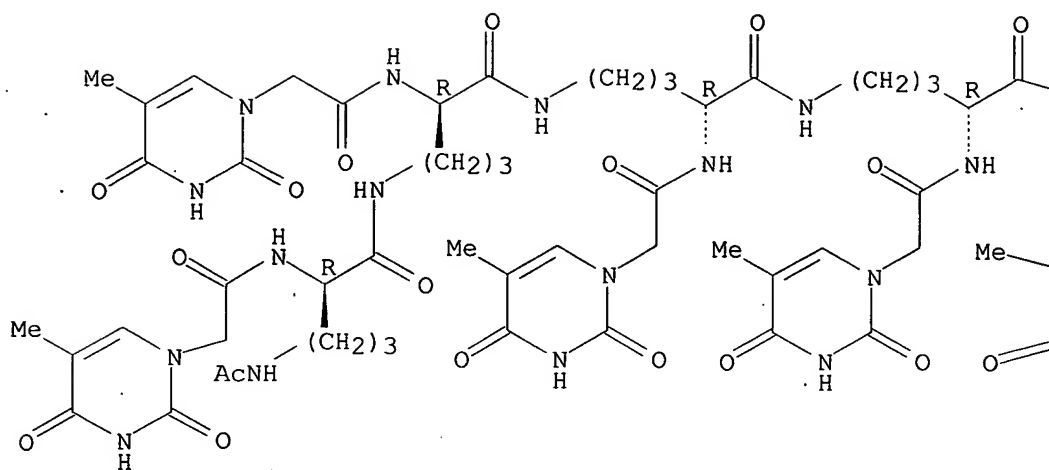
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REFERENCE 1: 129:16363

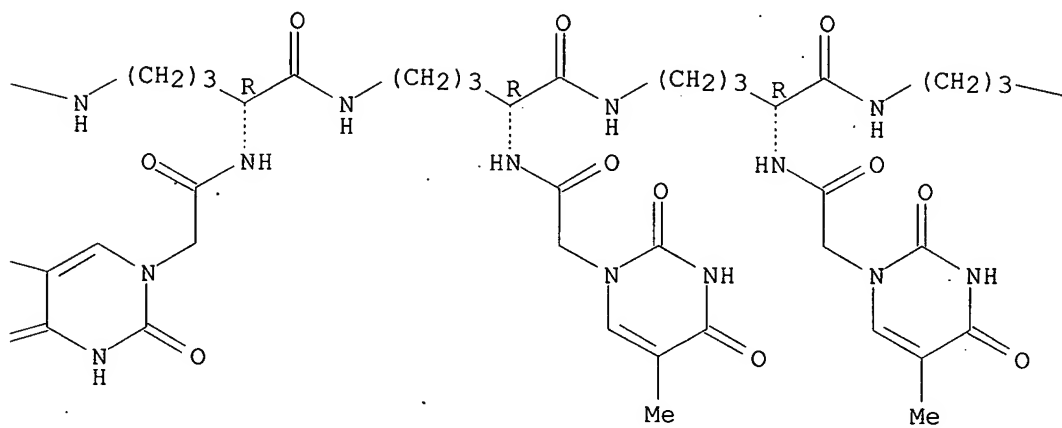
L2 ANSWER 24 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 207597-65-7 REGISTRY  
CN L-Lysinamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-acetyl-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-D-ornithyl- (9CI)  
(CA INDEX NAME)  
FS STEREOSEARCH  
MF C128 H177 N43 O42  
CI COM  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

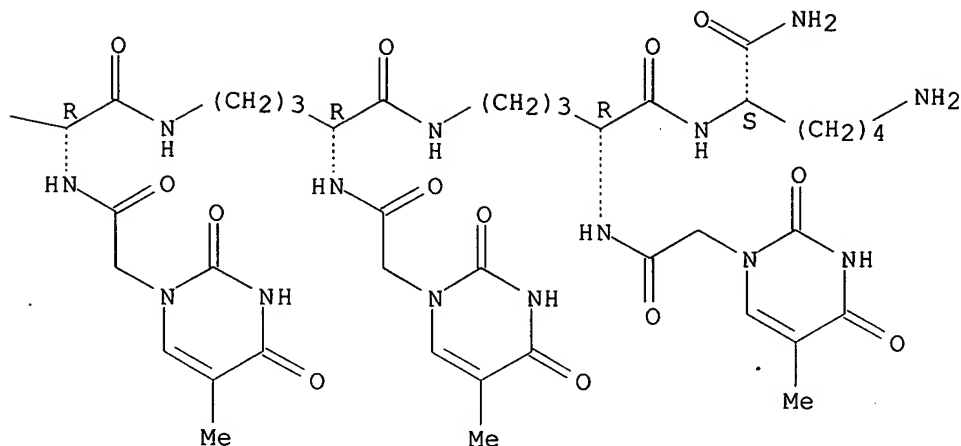
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PAGE 1-B







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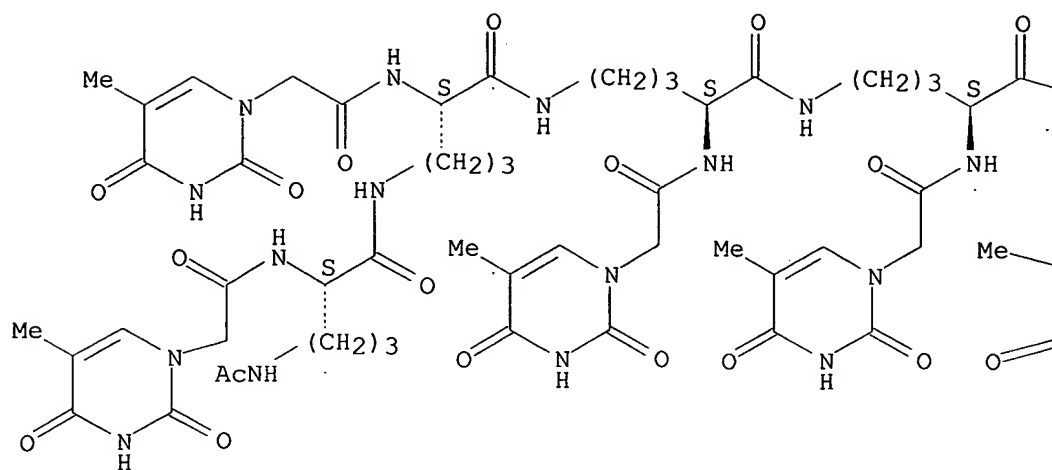
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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 129:16363

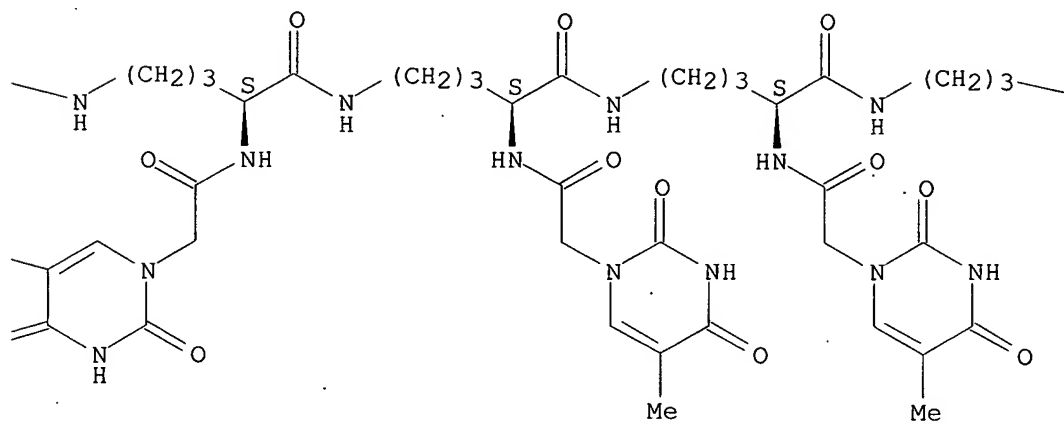
L2 ANSWER 25 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 207597-64-6 REGISTRY  
CN L-Lysinamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-acetyl-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl- (9CI)  
(CA INDEX NAME)  
FS STEREOSEARCH  
MF C128 H177 N43 O42  
CI COM  
SR CA  
LC STN Files: CA, CAPLUS

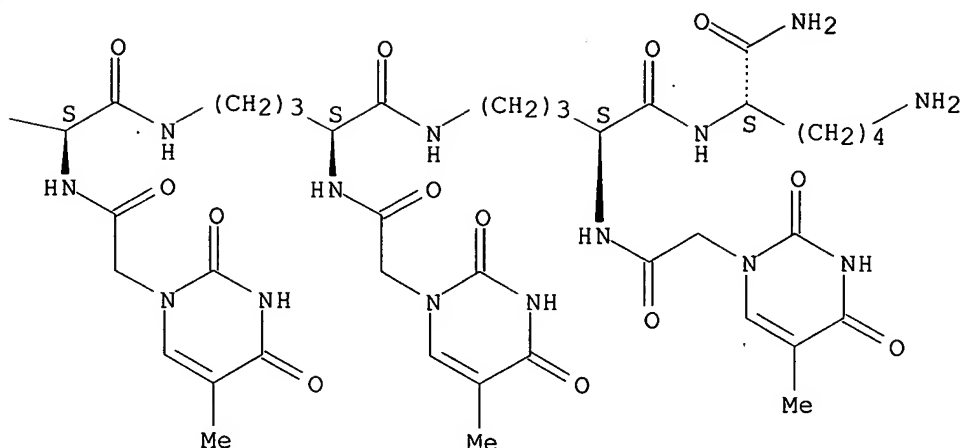
Absolute stereochemistry.

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PAGE 1-B





1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

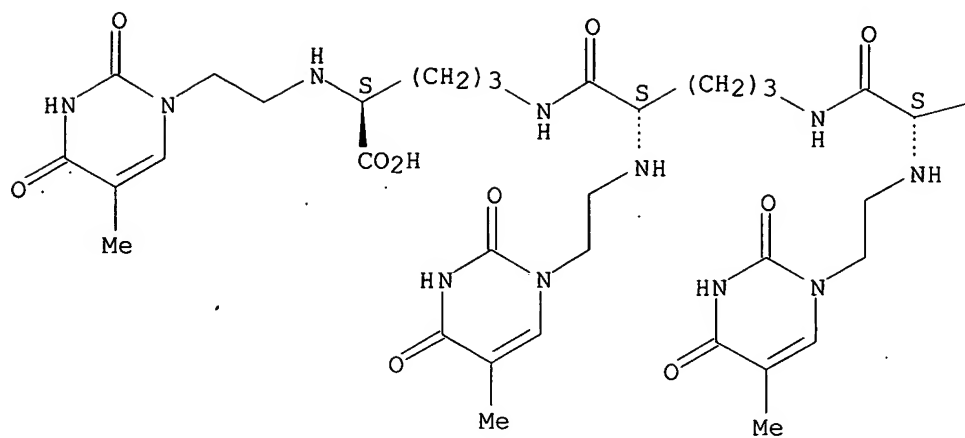
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L2      ANSWER 26 OF 51  REGISTRY      COPYRIGHT 2003 ACS
RN      202926-79-2    REGISTRY
CN      L-Ornithine, N2-[2-(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-
pyrimidinyl)ethyl]-N5-[N2-[2-(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-
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(9CI)  (CA
INDEX NAME)
FS      STEREOSEARCH
MF      C120 H182 N40 O31
SR      CA
LC      STN Files:    CA, CAPLUS

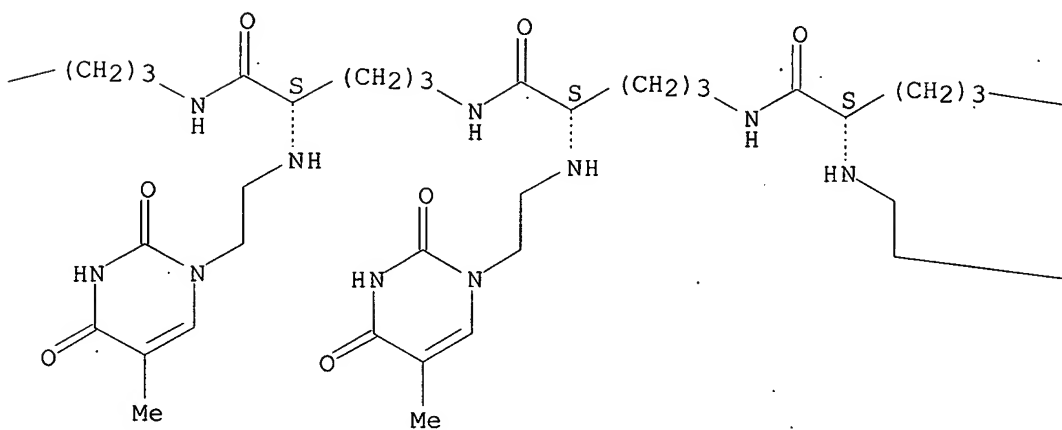
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Absolute stereochemistry.

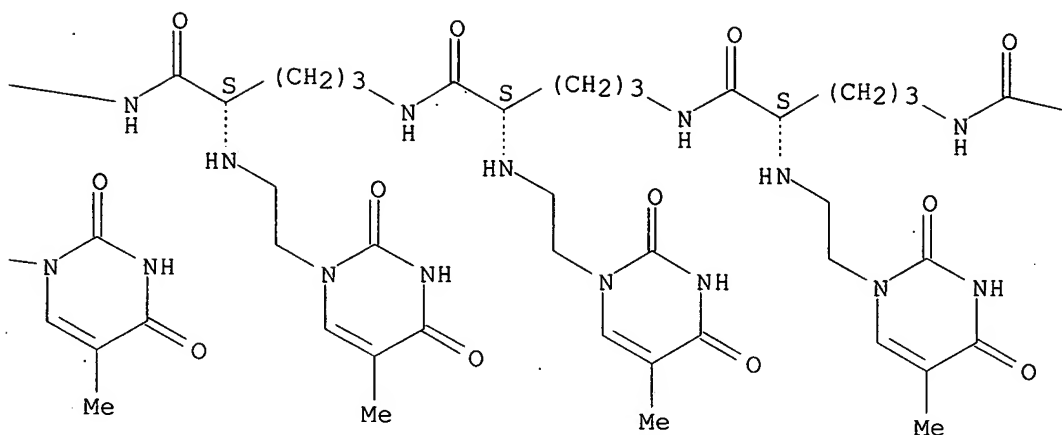
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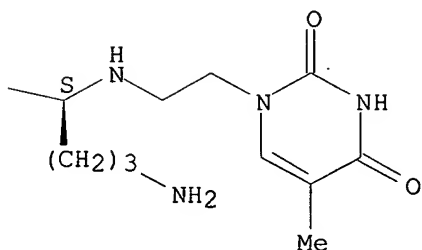
PAGE 1-B



PAGE 1-C



PAGE 1-D



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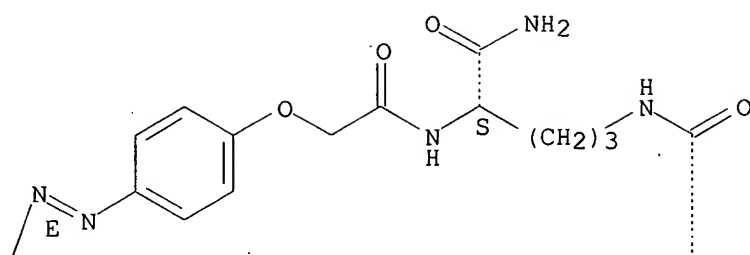
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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 128:167703

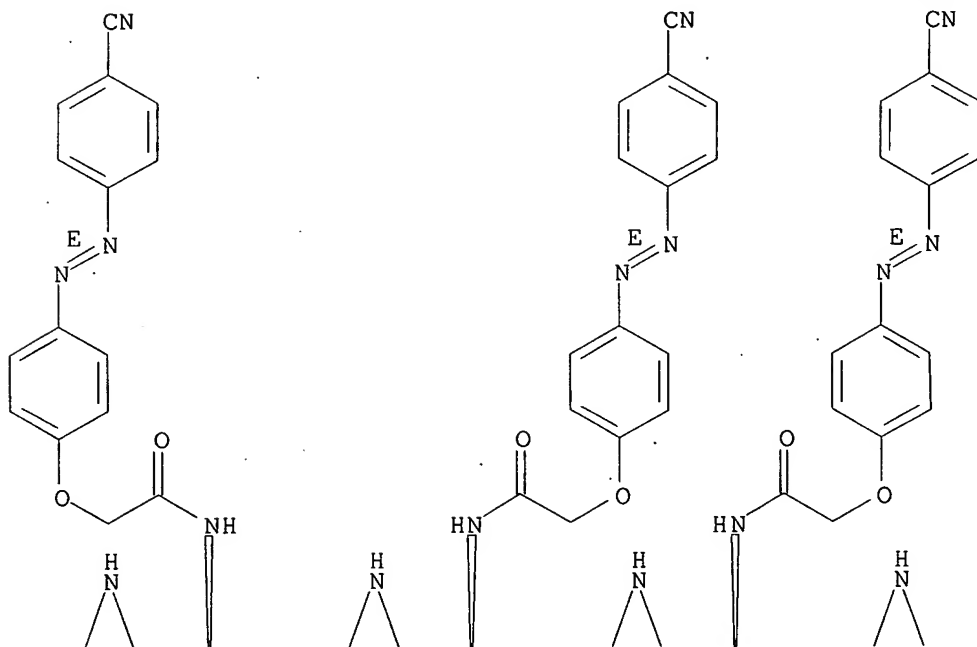
L2 ANSWER 27 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 184633-51-0 REGISTRY  
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FS STEREOSEARCH  
MF C137 H129 N35 O21  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

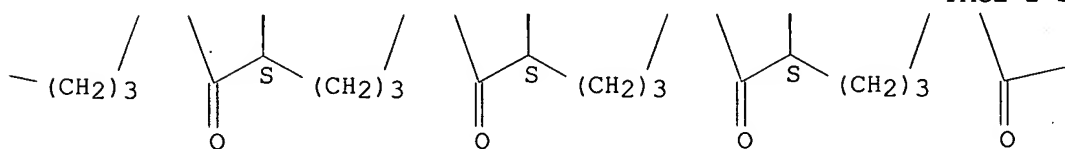
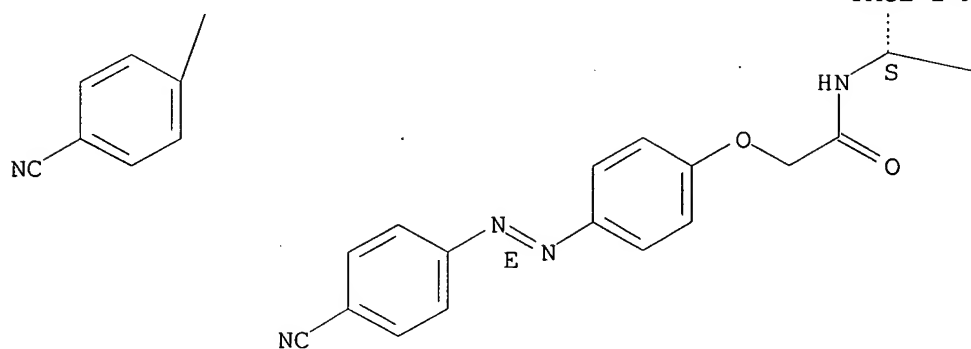
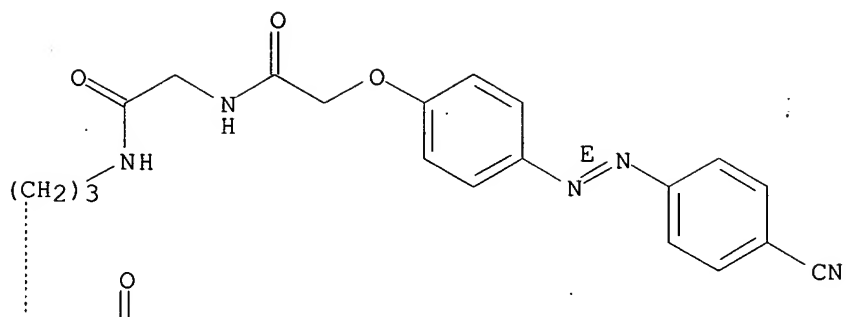
Absolute stereochemistry.  
Double bond geometry as shown.

PAGE 1-A

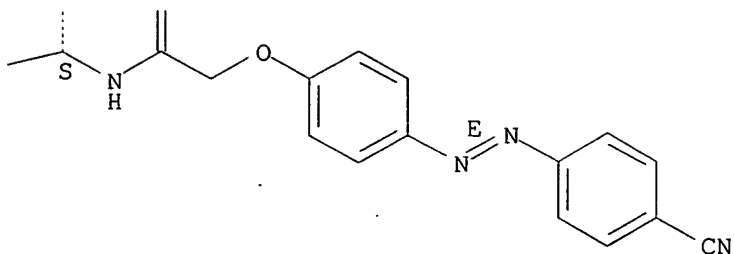


PAGE 1-B





PAGE 2-C



3 REFERENCES IN FILE CA (1957 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 131:257847

REFERENCE 2: 126:118198

REFERENCE 3: 126:39584

L2 ANSWER 28 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 184633-50-9 REGISTRY

CN L-Ornithinamide, N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N2-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]-N5-[N-[[4-[(1E)-(4-cyanophenyl)azo]phenoxy]acetyl]glycyl]-L-ornithyl]-L-ornithyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

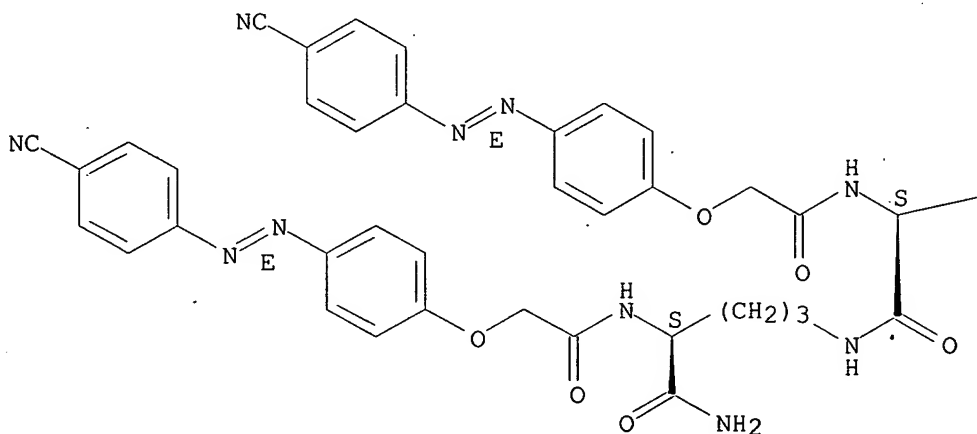
MF C77 H72 N20 O12

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

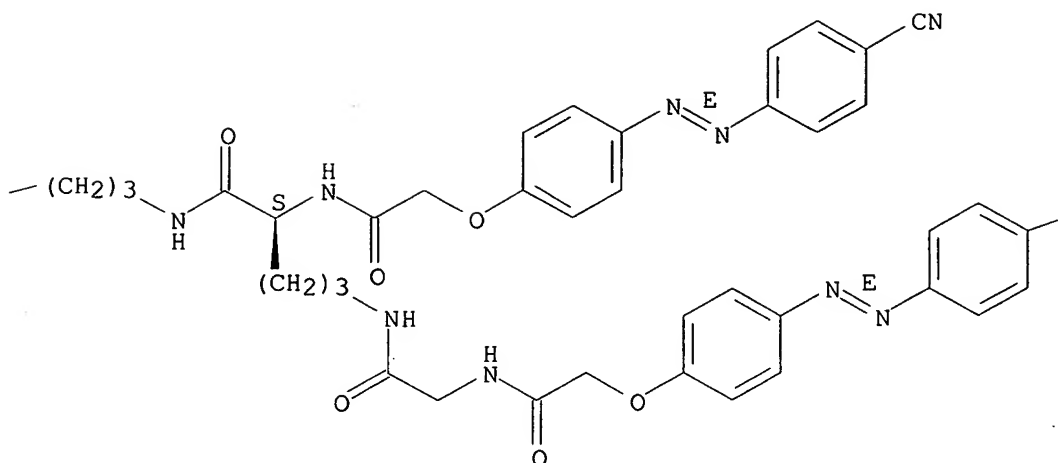
Absolute stereochemistry.  
Double bond geometry as shown.

PAGE 1-A





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PAGE 1-C

—CN

3 REFERENCES IN FILE CA (1957 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 131:257847

REFERENCE 2: 126:118198

REFERENCE 3: 126:39584

L2 ANSWER 29 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 178036-67-4 REGISTRY

CN DNA, d(A-A-A-A-A-A-A-A-A-A), compd. with N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-(N5-L-ornithyl-L-ornithyl)-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-lysineamide decaamide with 3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidineacetic acid (1:1) (9CI)  
(CA INDEX NAME)

FS NUCLEIC ACID SEQUENCE; STEREOSEARCH

DR 178095-25-5, 279694-95-0

MF C126 H175 N43 O41 . Unspecified

SR CA

LC STN Files: CA, CAPLUS

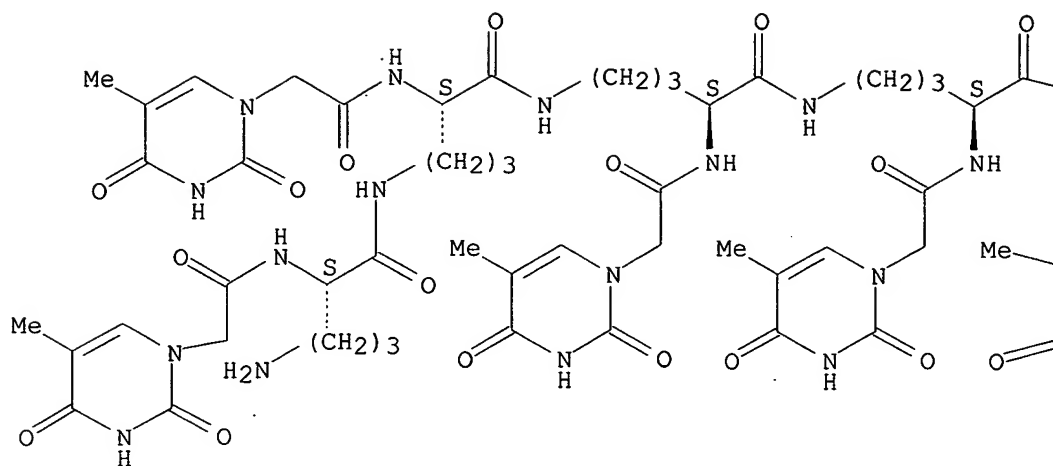
CM 1

CRN 175431-23-9

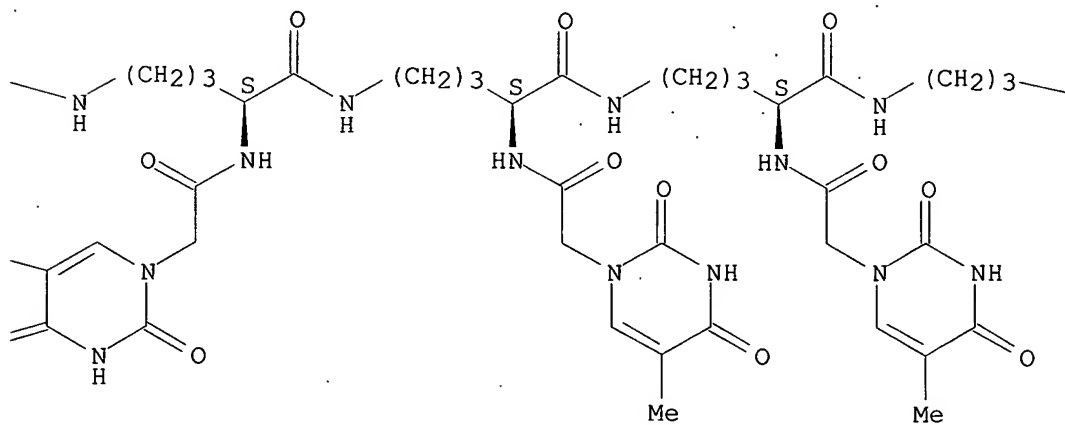
CMF C126 H175 N43 O41

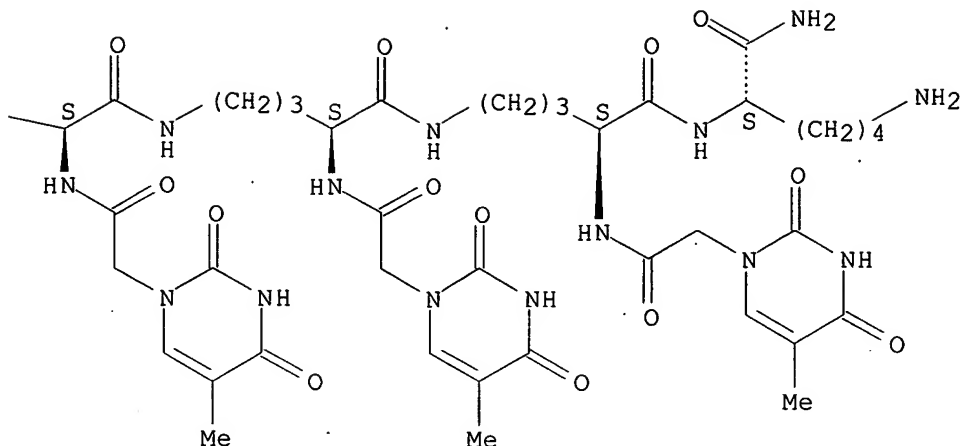
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B





CM 2

CRN 55508-40-2  
CMF Unspecified  
CCI MAN

\*\*RELATED SEQUENCES AVAILABLE WITH SEQLINK\*\*

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

\*\*\* USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE \*\*\*  
3 REFERENCES IN FILE CA (1957 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 133:89771

REFERENCE 2: 125:59113

L2 ANSWER 30 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 177913-36-9 REGISTRY

CN 5'-Adenylic acid, homopolymer, complex with N5-[N5-[N5-[N5-[N5-[N5-[N5-(N5-L-ornithyl-L-ornithyl)-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-lysineamide decaamide with 3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidineacetic acid (1:1) (9CI)  
(CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Lysineamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-(N5-L-ornithyl-L-ornithyl)-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl-, decaamide with 3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidineacetic acid, complex with 5'-adenylic acid homopolymer (1:1) (9CI)

FS STEREOSEARCH

MF C126 H175 N43 O41 . 1/2 (C10 H14 N5 O7 P)x

PCT Polynucleotide

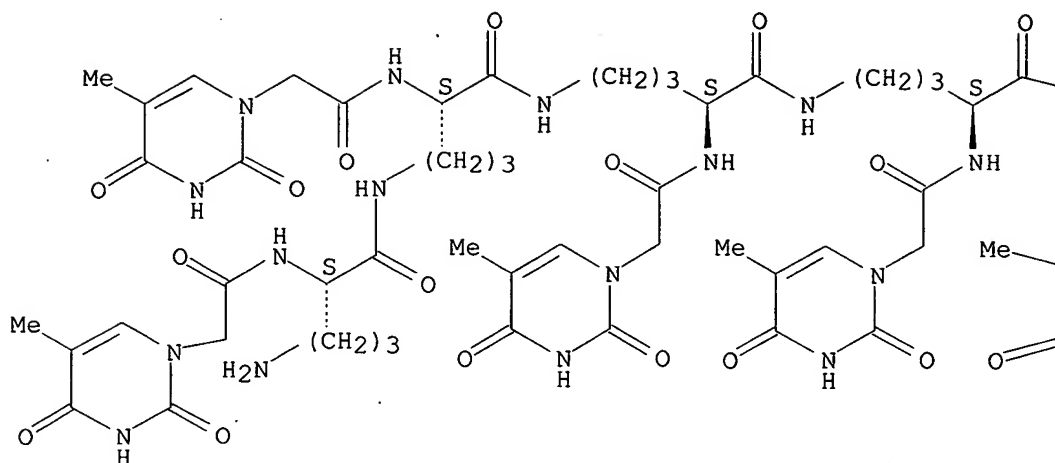
SR CA

LC STN Files: CA, CAPLUS

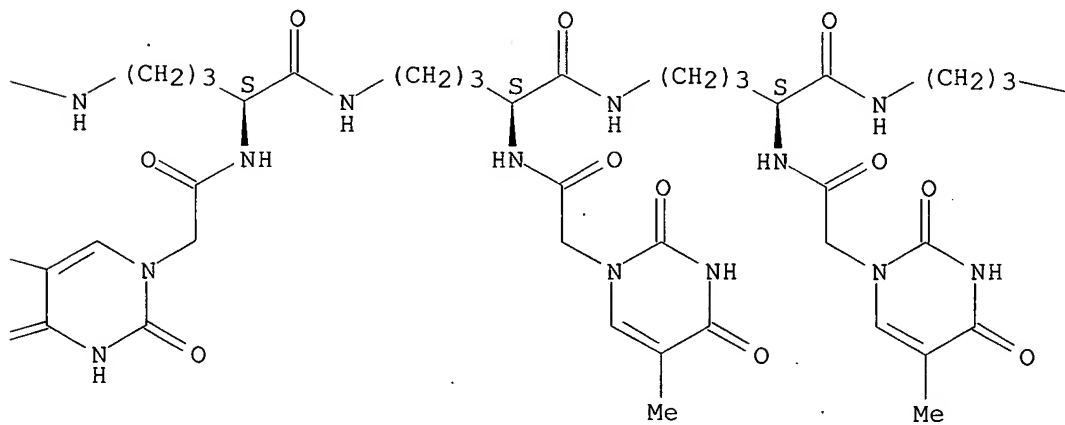
CM 1

CRN 175431-23-9  
CMF C126 H175 N43 O41

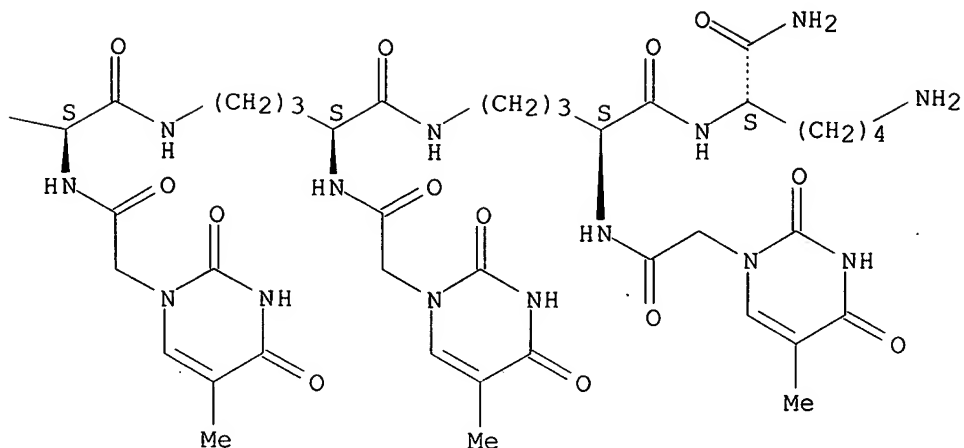
Absolute stereochemistry.



PAGE 1-B



PAGE 1-C



CM 2

CRN 24937-83-5

CMF (C10 H14 N5 O7 P)x

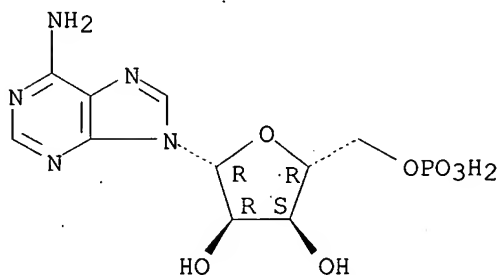
CCI PMS

CM 3.

CRN 61-19-8

CMF C10 H14 N5 O7 P

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 125:59113

L2 ANSWER 31 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 176390-30-0 REGISTRY

CN L-Ornithine, N5-[N5-[N5-[N5-[N5-(N5-L-ornithyl-L-ornithyl)-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

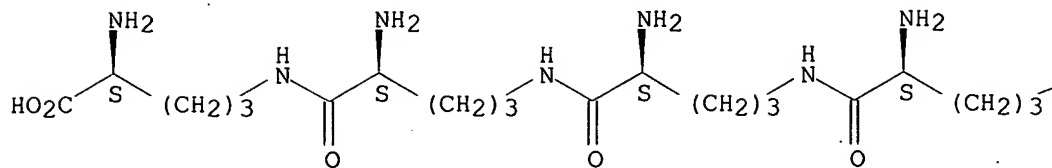
MF C40 H82 N16 O9

SR CA

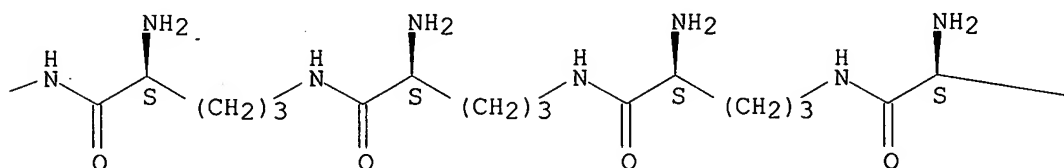
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

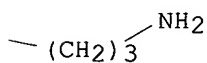
PAGE 1-A



PAGE 1-B



PAGE 1-C



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

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 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 125:2444

REFERENCE 2: 124:308720

L2 ANSWER 32 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 175431-26-2 REGISTRY

CN D-Lysinamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-(N5-L-ornithyl-D-ornithyl)-L-ornithyl]-D-ornithyl]-L-ornithyl]-D-ornithyl]-L-ornithyl]-D-ornithyl]-L-ornithyl-, decaamide with 3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidineacetic acid (9CI) (CA INDEX NAME)

FS STEREOSEARCH

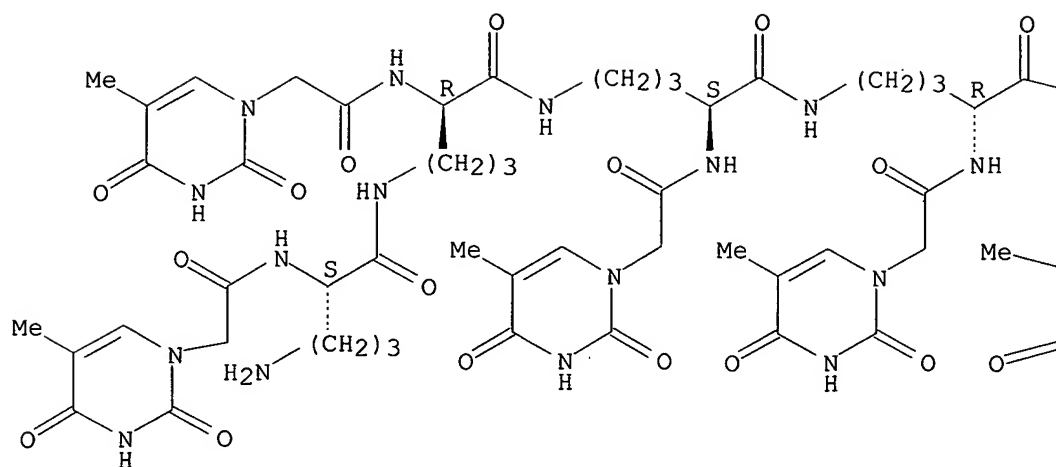
MF C126 H175 N43 O41

SR CA

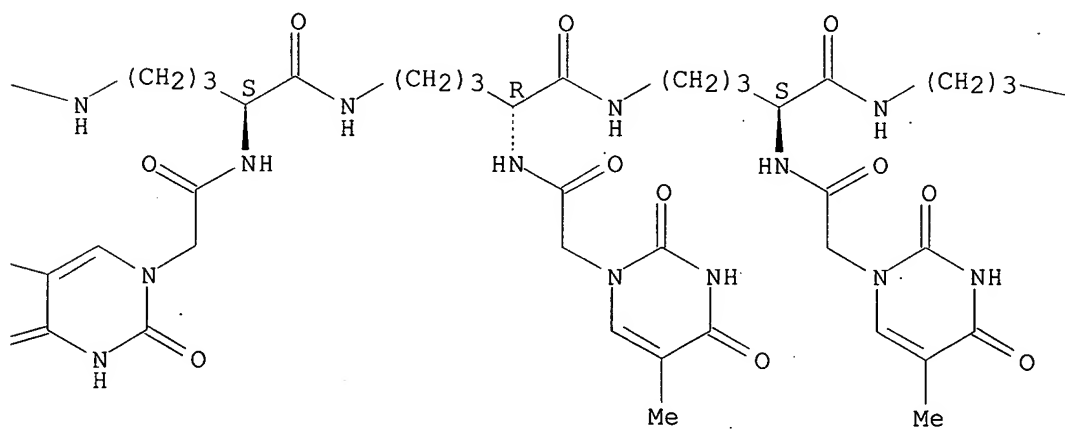
LC STN Files: CA, CAPLUS

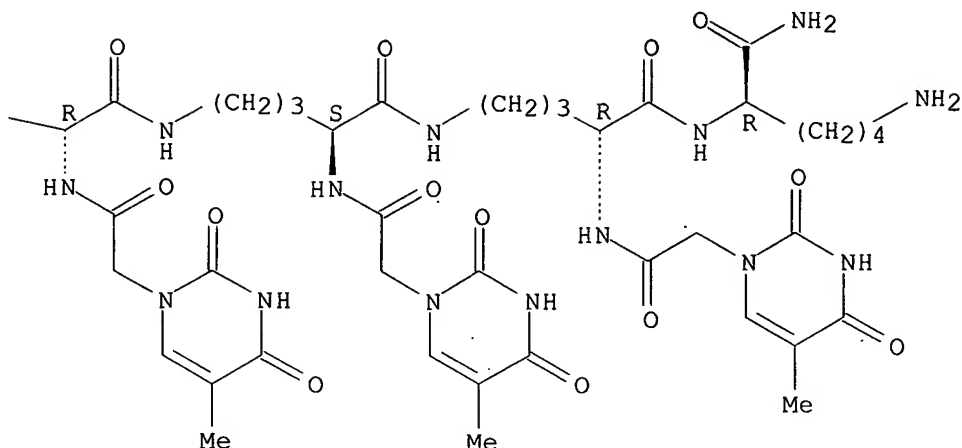
Absolute stereochemistry.

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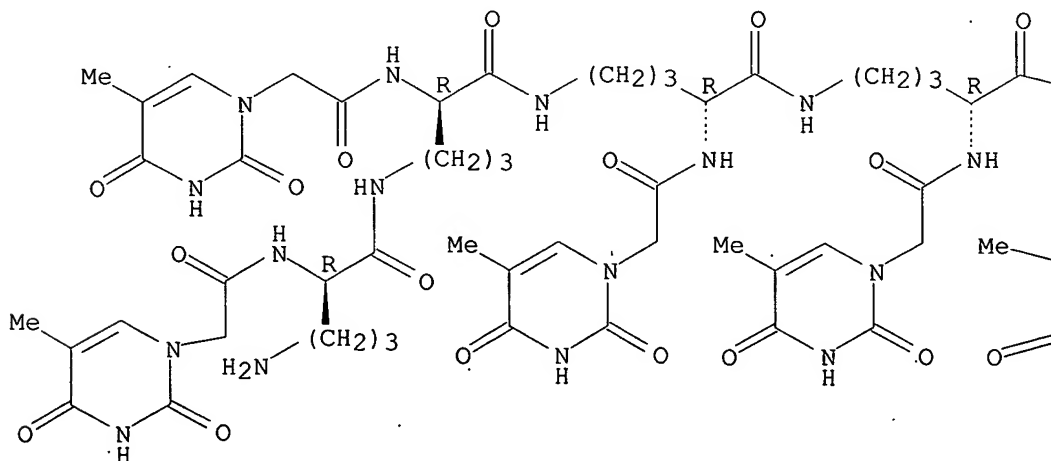
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

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- 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

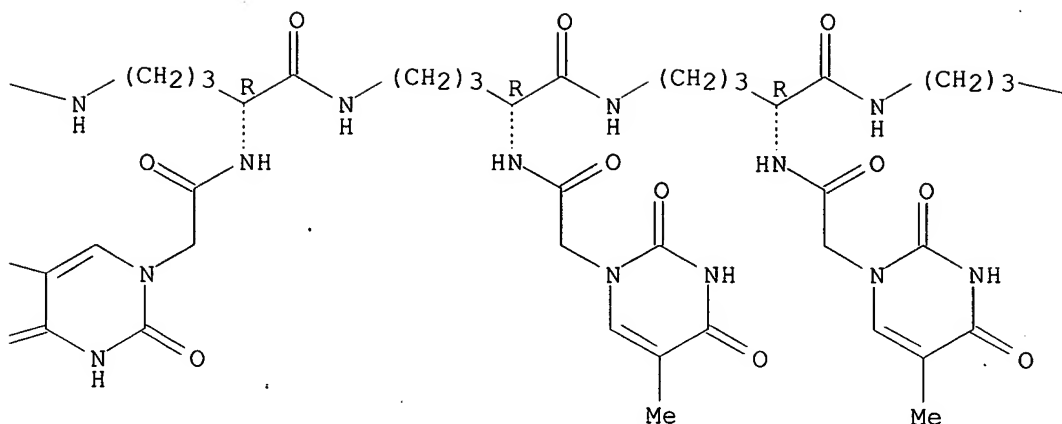
REFERENCE 1: 124:290226

L2 ANSWER 33 OF 51 REGISTRY COPYRIGHT 2003 ACS  
 RN 175431-25-1 REGISTRY  
 CN D-Lysinamide, N5-[N5-[N5-[N5-[N5-[N5-[N5-(N5-D-ornithyl-D-ornithyl)-D-ornithyl]-D-ornithyl]-D-ornithyl]-D-ornithyl]-D-ornithyl]-D-ornithyl]-D-ornithyl-, decaamide with 3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidineacetic acid (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C126 H175 N43 O41  
 SR CA  
 LC STN Files: CA, CAPLUS

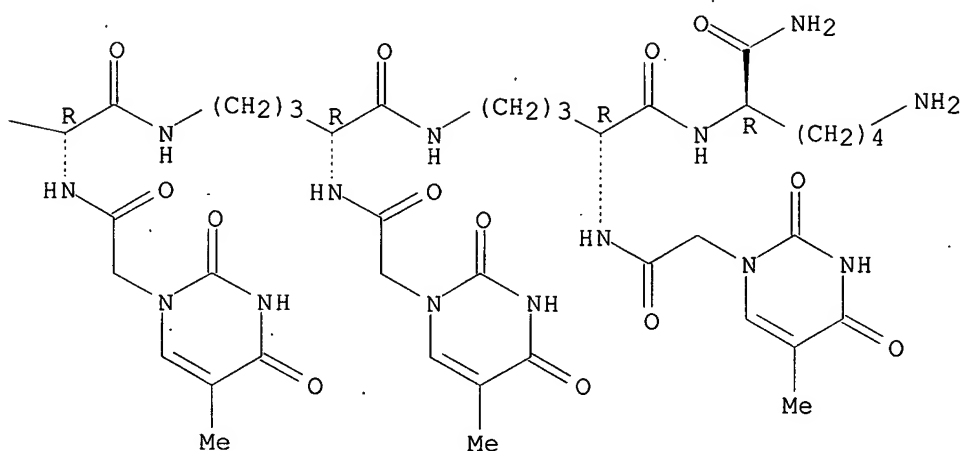
Absolute stereochemistry.







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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 124:290226

L2 ANSWER 34 OF 51 REGISTRY COPYRIGHT 2003 ACS

RN 175431-23-9 REGISTRY

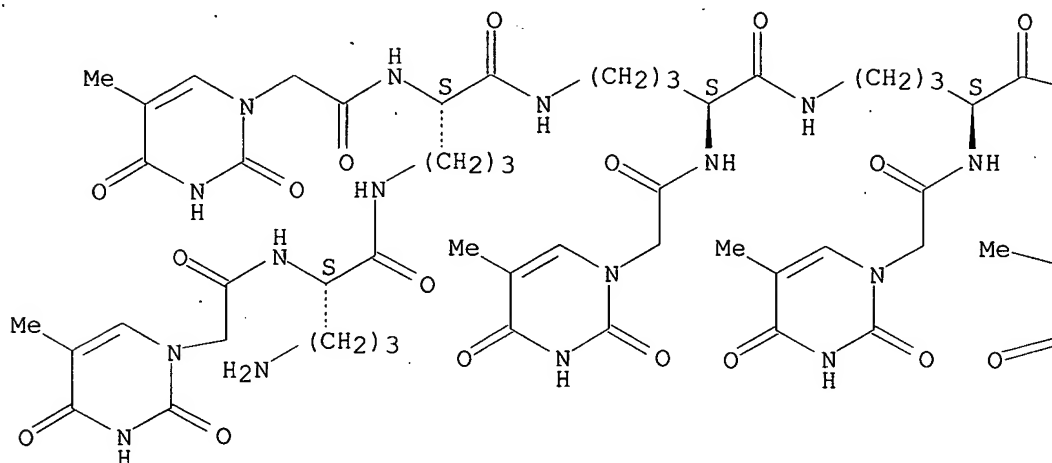
[illegible]

pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-  
pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-  
pyrimidinyl)acetyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-  
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(9CI) (CA INDEX NAME)

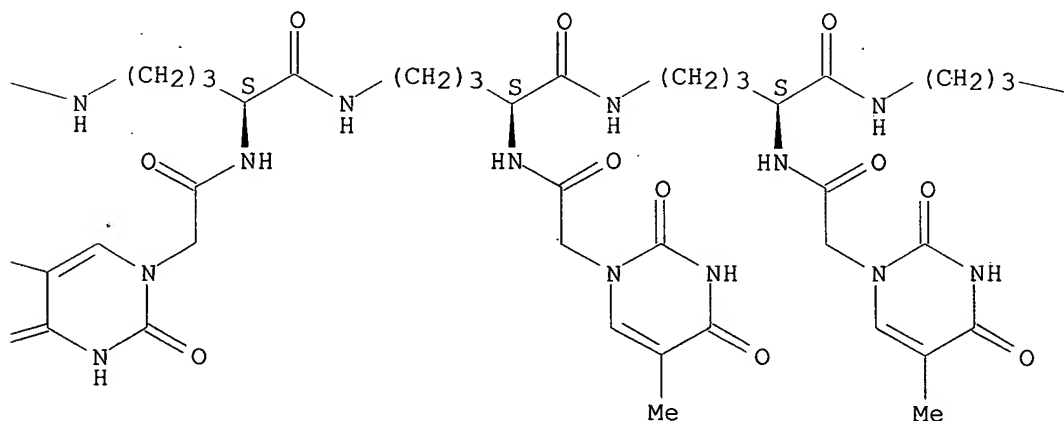
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MF C126 H175 N43 O41  
CI COM  
SR CA  
LC STN Files: CA, CAPLUS

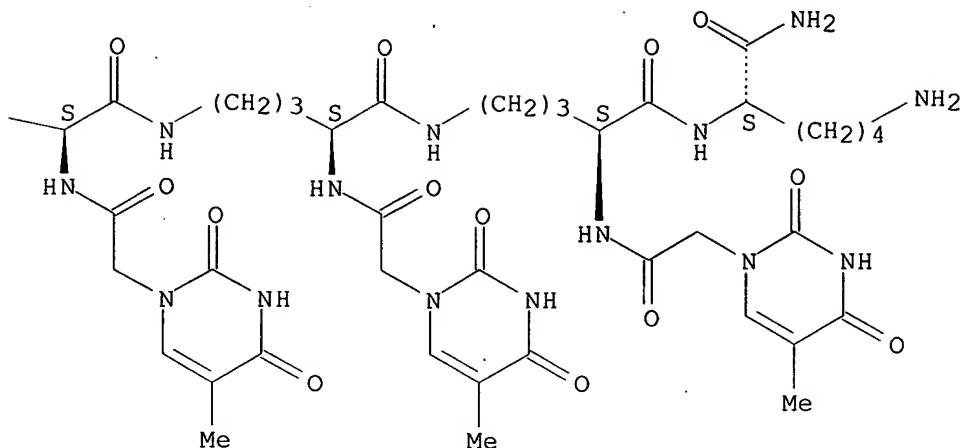
Absolute stereochemistry.

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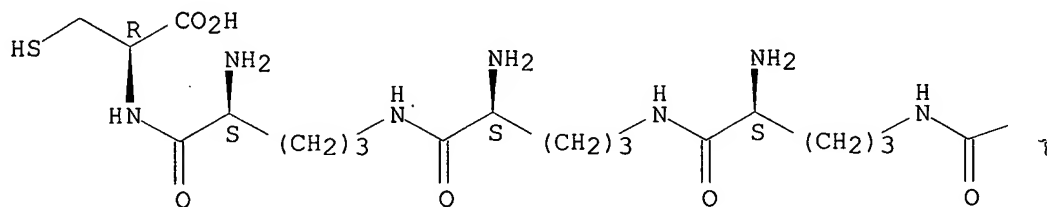
2 REFERENCES IN FILE CA (1957 TO DATE) .  
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2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 2: 124:290226

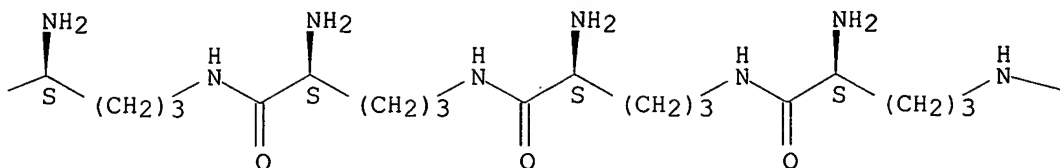
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L2 ANSWER 35 OF 51 REGISTRY COPYRIGHT 2003 ACS
RN 171772-43-3 REGISTRY
CN L-Cysteine, N-[N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-[N5-(N5-L-cysteiny1-L-
ornithyl)-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-
ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C56 H112 N22 O13 S2
SR CA
LC STN Files: CA, CAPLUS
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Absolute stereochemistry.

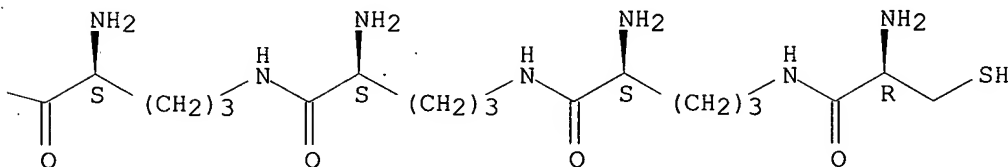
PAGE 1-A



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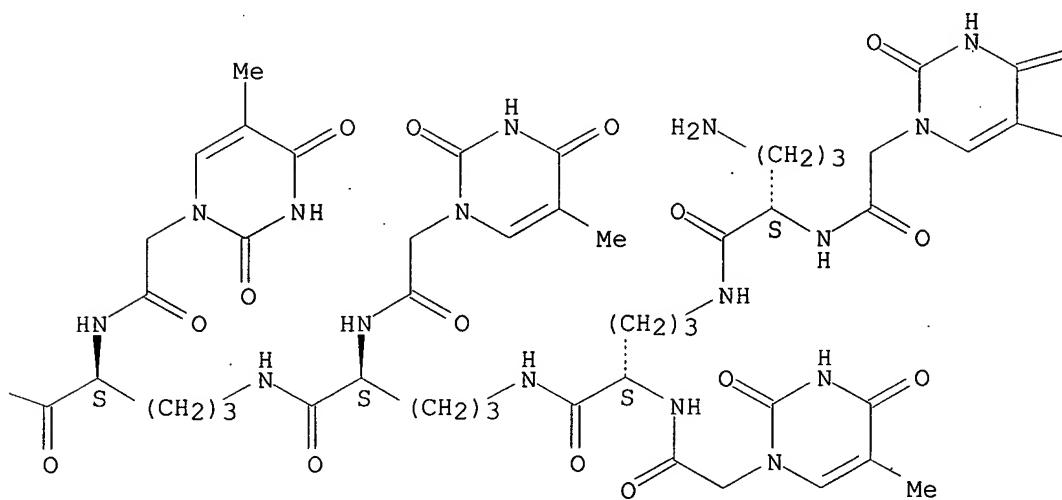
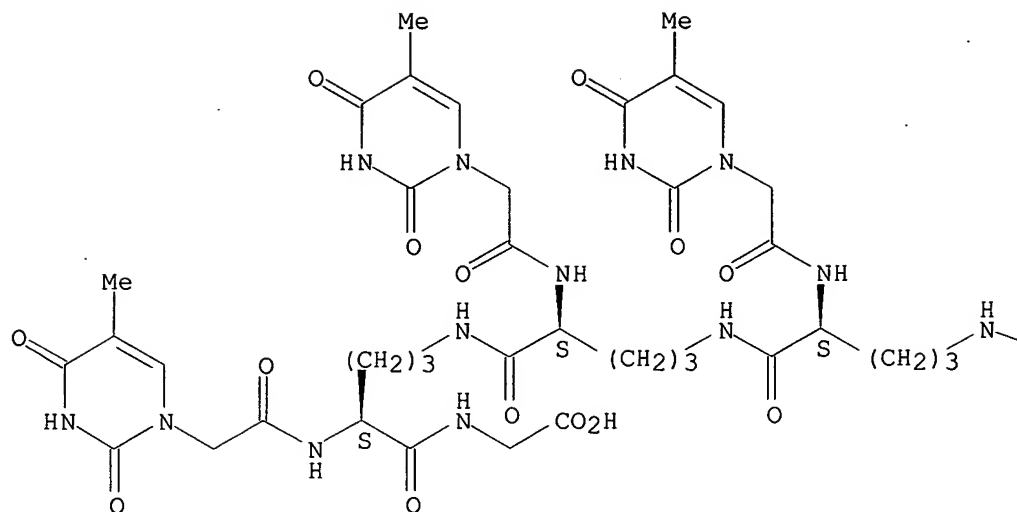
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 124:108909

L2 ANSWER 36 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 168264-36-6 REGISTRY  
CN Glycine, N-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-N5-[N2-[(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)acetyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C86 H117 N29 O30  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

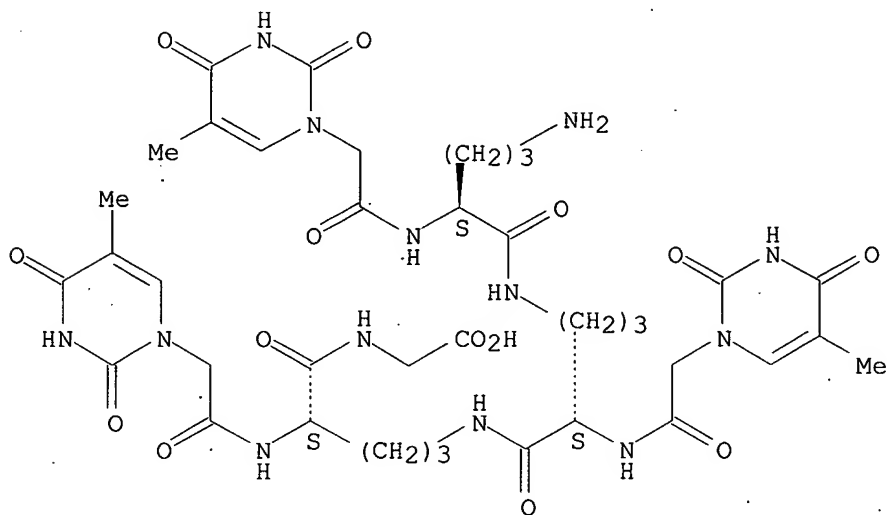
Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

Absolute stereochemistry.



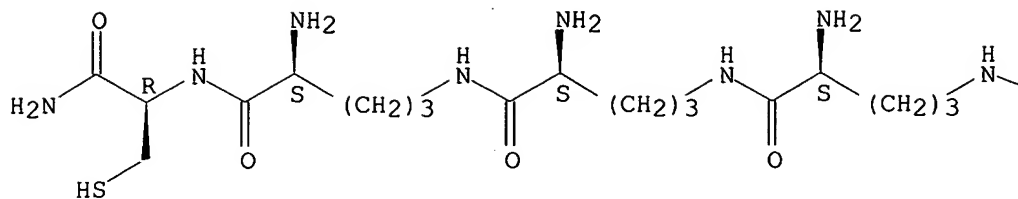
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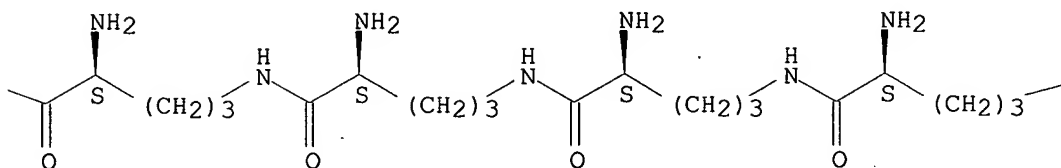
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Absolute stereochemistry.

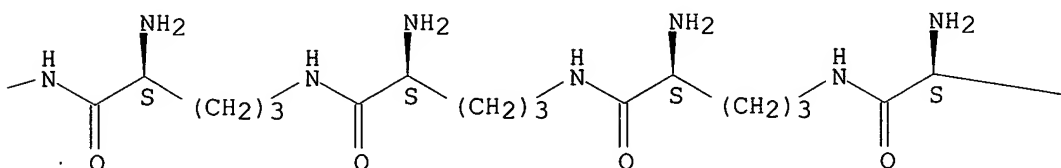
PAGE 1-A



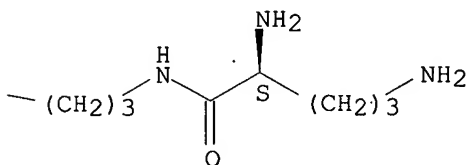
PAGE 1-B



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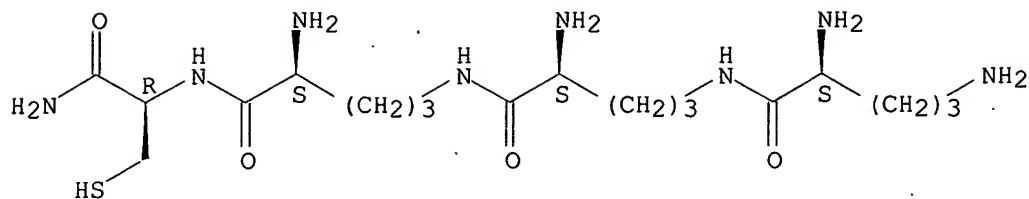
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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 122:139492

L2 ANSWER 39. OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 160741-46-8 REGISTRY  
CN L-Cysteinamide, N5-(N5-L-ornithyl-L-ornithyl)-L-ornithyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C18 H38 N8 O4 S  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

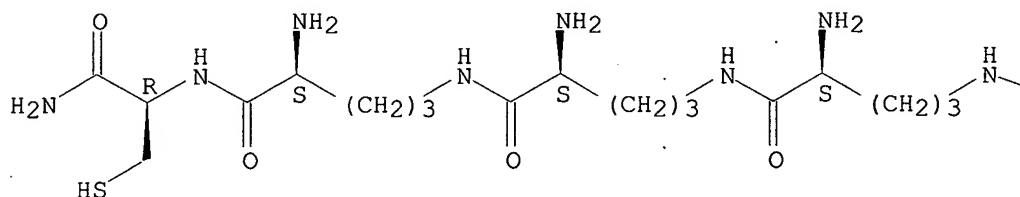
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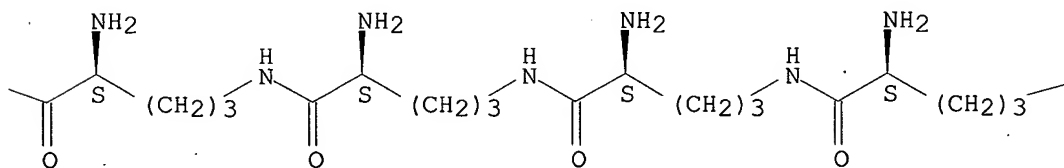
L2 ANSWER 40 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 160741-45-7 REGISTRY  
CN L-Cysteinamide, N5-[N5-[N5-[N5-[N5-(N5-L-ornithyl-L-ornithyl)-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl-  
(9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C43 H88 N18 O9 S  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

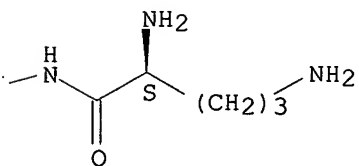
PAGE 1-A



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REFERENCE 1: 122:139492

RN 160056-09-7 REGISTRY

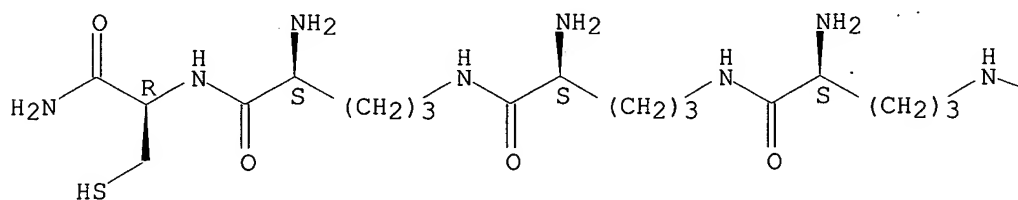
FS STEREOSEARCH

MF C71 H137 N27 O15 S

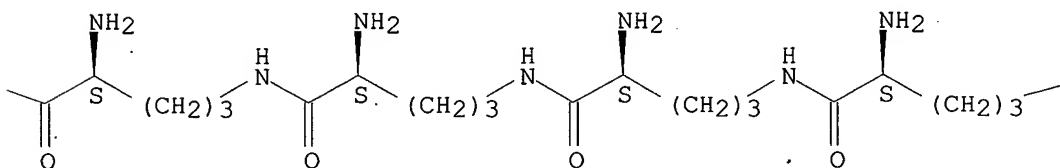
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LC STN Files: CA, CAPLUS

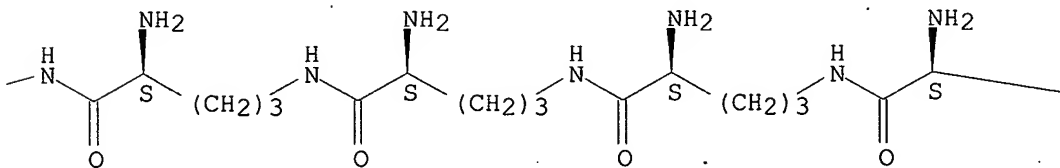
PAGE 1-A

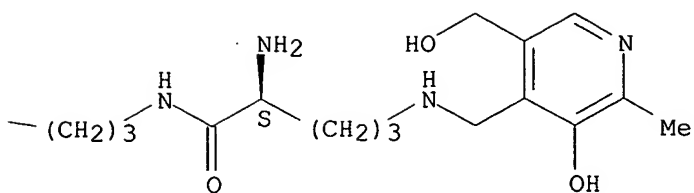


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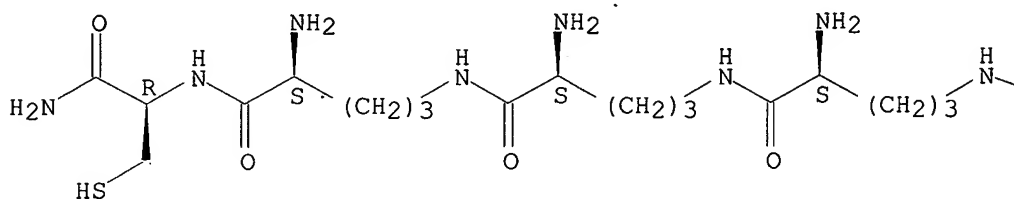


1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

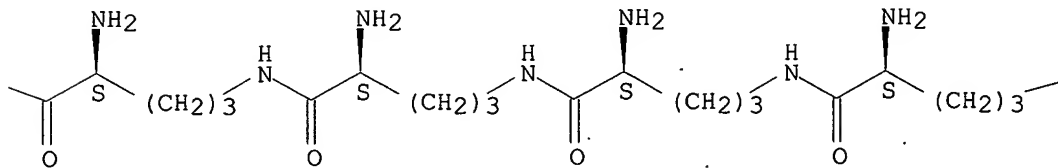
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L2 ANSWER 42 OF 51 REGISTRY COPYRIGHT 2003 ACS
RN 160056-08-6 REGISTRY
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(hydroxymethyl)-2-methyl-4-pyridinyl)methyl]-L-ornithyl]-L-ornithyl]-L-
ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-L-ornithyl]-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C51 H97 N19 O11 S
SR CA
LC STN Files: CA, CAPLUS
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Absolute stereochemistry.

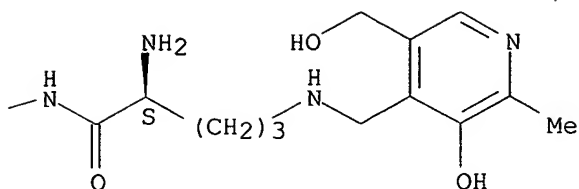
PAGE 1-A



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\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

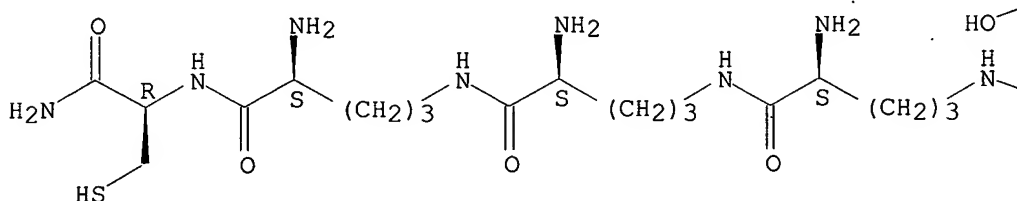
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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 122:56488

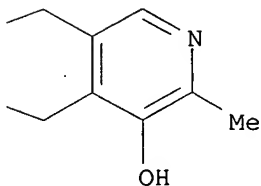
L2 ANSWER 43 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 160056-07-5 REGISTRY  
CN L-Cysteinamide, N5-[N5-[N5-[3-hydroxy-5-(hydroxymethyl)-2-methyl-4-pyridinyl]methyl]-L-ornithyl]-L-ornithyl- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C26 H47 N9 O6 S  
SR CA  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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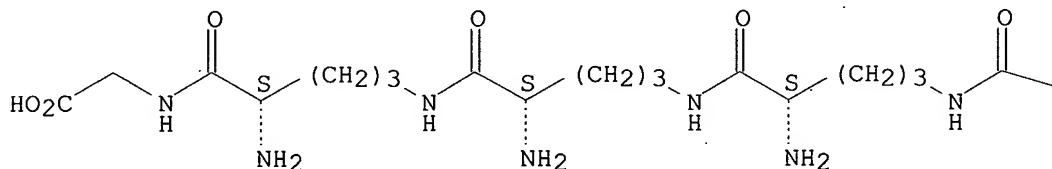
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

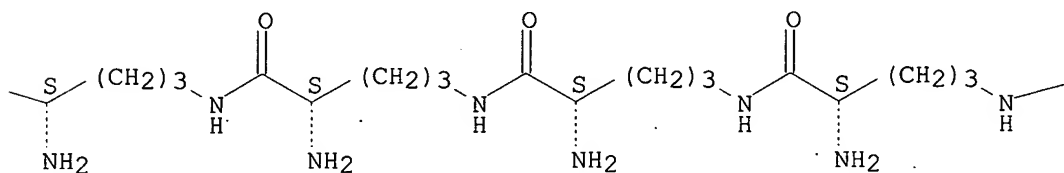
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L2 ANSWER 44 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 156311-81-8 REGISTRY

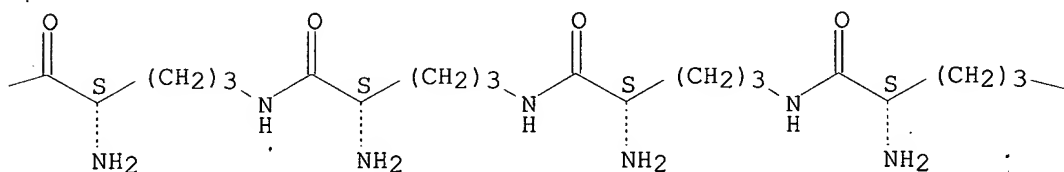
PAGE 1-A



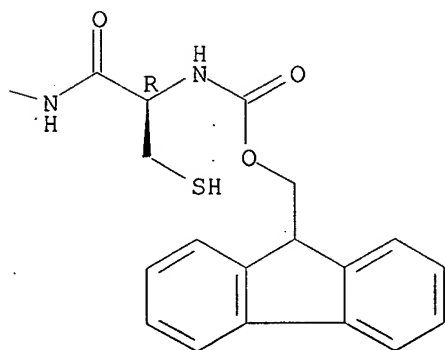
PAGE 1-B



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PAGE 1-D



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1957 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

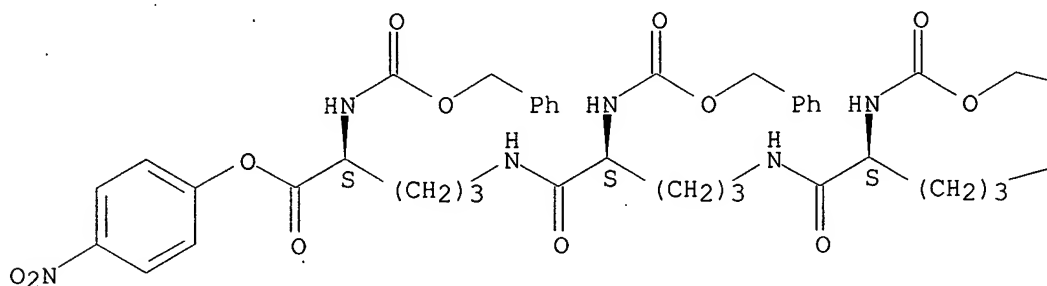
REFERENCE 1: 124:66581

REFERENCE 2: 121:180123

L2 ANSWER 45 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 125156-34-5 REGISTRY  
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FS STEREOSEARCH  
MF C45 H53 N7 O12 . Cl H  
SR CA  
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



● HCl

PAGE 1-B

— Ph  
— NH2

1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

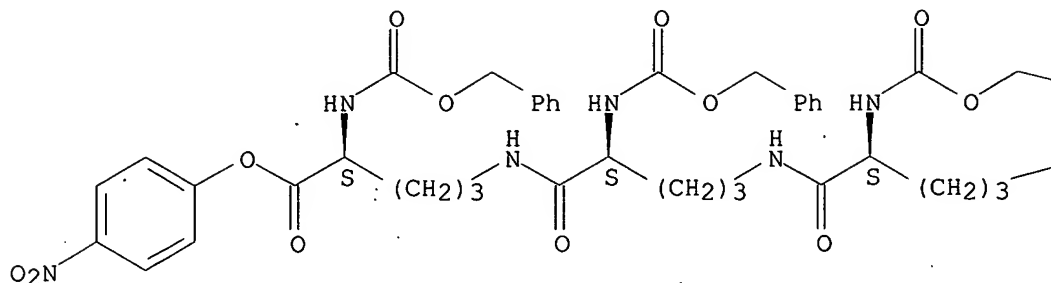
REFERENCE 1: 112:99263

L2 ANSWER 46 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 125156-33-4 REGISTRY  
CN L-Ornithine, N5-[N5-[N5-[(1,1-dimethylethoxy)carbonyl]-N2-[(phenylmethoxy)carbonyl]-L-ornithyl]-N2-[(phenylmethoxy)carbonyl]-L-ornithyl]-N2-[(phenylmethoxy)carbonyl]-, 4-nitrophenyl ester (9CI) (CA INDEX NAME)  
FS STEREOSEARCH

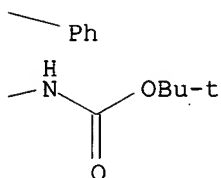
MF C50 H61 N7 O14  
 SR CA  
 LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

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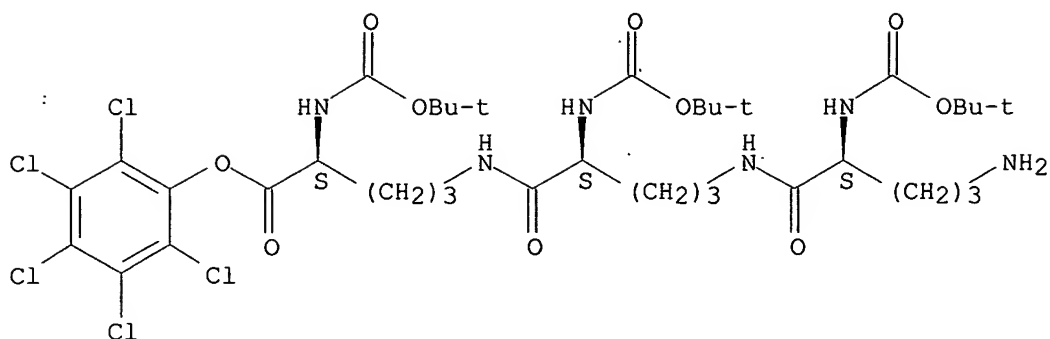


1 REFERENCES IN FILE CA (1957 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 112:99263

L2 ANSWER 47 OF 51 REGISTRY COPYRIGHT 2003 ACS  
 RN 78408-95-4 REGISTRY  
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 FS STEREOSEARCH  
 MF C36 H55 Cl5 N6 O10 . Cl H  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.



● HCl

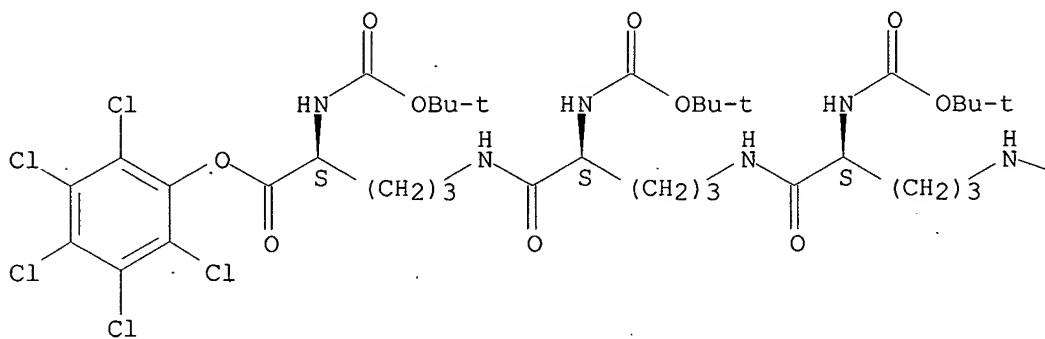
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REFERENCE 1: 95:62659

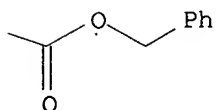
L2 ANSWER 48 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 78397-47-4 REGISTRY  
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FS STEREOSEARCH  
MF C44 H61 Cl5 N6 O12  
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 95:62659

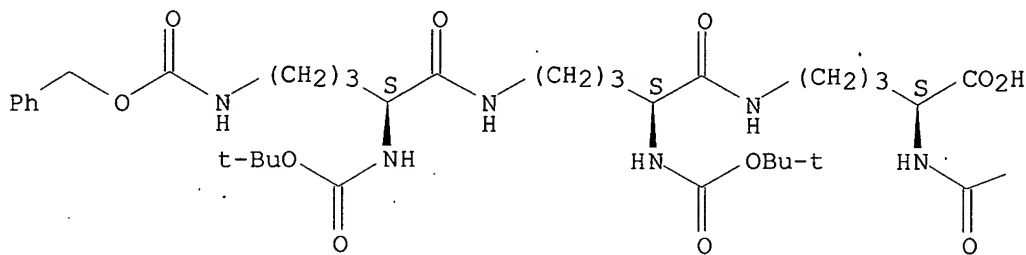
L2 ANSWER 49 OF 51 REGISTRY COPYRIGHT 2003 ACS  
RN 78397-46-3 REGISTRY  
CN L-Ornithine, N2-[(1,1-dimethylethoxy)carbonyl]-N5-[N2-[(1,1-dimethylethoxy)carbonyl]-N5-[N2-[(1,1-dimethylethoxy)carbonyl]-N5-[(phenylmethoxy)carbonyl]-L-ornithyl]-L-ornithyl]-, compd. with N-cyclohexylcyclohexanamine (1:1) (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C38 H62 N6 O12 . C12 H23 N  
LC STN Files: CA, CAPLUS

CM 1

CRN 78397-45-2  
CMF C38 H62 N6 O12

Absolute stereochemistry.

PAGE 1-A

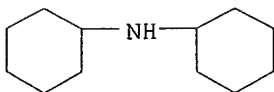


PAGE 1-B

—OBu-t

CM 2

CRN 101-83-7  
CMF C12 H23 N



1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

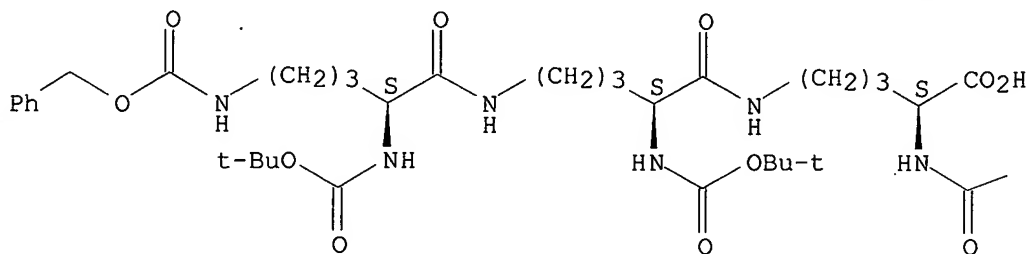


REFERENCE 1: 95:62659

L2 ANSWER 50 OF 51 REGISTRY COPYRIGHT 2003 ACS  
 RN 78397-45-2 REGISTRY  
 CN L-Ornithine, N2-[(1,1-dimethylethoxy)carbonyl]-N5-[N2-[(1,1-dimethylethoxy)carbonyl]-N5-[N2-[(1,1-dimethylethoxy)carbonyl]-N5-[(phenylmethoxy)carbonyl]-L-ornithyl]-L-ornithyl]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C38 H62 N6 O12  
 CI COM  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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PAGE 1-B

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\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)

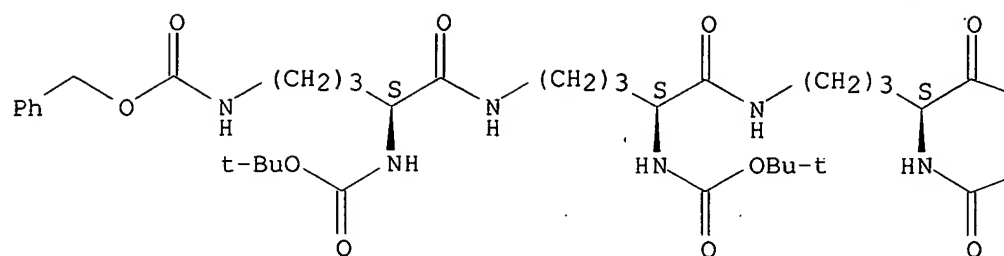
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 95:62659

L2 ANSWER 51 OF 51 REGISTRY COPYRIGHT 2003 ACS  
 RN 78397-44-1 REGISTRY  
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 FS STEREOSEARCH  
 MF C39 H64 N6 O12  
 LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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—OMe

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1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 95:62659